



GENERATOR INTERCONNECTION AFFECTED SYSTEM IMPACT STUDY REPORT

ASGI-2017-005

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By SPP Generator Interconnections Dept.

REVISION HISTORY

Date	Author	Change Description
06/15/2017	SPP	Affected System Impact Study for ASGI-2017-005 Report Revision 0 Issued
06/16/2017	SPP	Affected System Impact Study for ASGI-2017-005 Report Revision 1 Issued for correction of table references
10/9/2017	SPP	Affected System Impact Study for ASGI-2017-005 Report Revision 2 Issued to include results based on AECI's Remington – Barnsdall 138kV alternate upgrade

EXECUTIVE SUMMARY

An Affected System Interconnection Customer has requested an Affected System Impact Study (ASIS) consistent with Southwest Power Pool (SPP) Open Access Transmission Tariff (OATT) for interconnection requests into the system of Associated Electric Cooperative Inc. (AECI). AECI request GI-52/SIS-23, 144 MW wind generating facility, has been assigned the SPP queue identifier ASGI-2017-005.

This ASIS addresses the effects to the SPP system of interconnecting the generators to the AECI transmission system for the system topology and requests included in SPP DISIS-2016-001. ASGI-2017-005 is requesting the interconnection of seventy-two (72) Vestas V110 2.0 MW wind turbines and associated facilities interconnecting to AECI at the Remington 138 kV substation in Osage County, OK.

The ASIS analysis has determined that the ASGI-2017-005 request can interconnect 144.0 MW of generation with Energy Resource Interconnection Service (ERIS) and Network Resource Interconnection Service (NRIS) with the study dispatch assumption listed in **Table 1** after the completion of the required Network Upgrades, listed within **Table 2A or Table 2B** of this report depending on the which AECI upgrade set are assigned as ASGI-2017-005 moves forward in the AECI GI process. AECI upgrade sets are listed in **Table 7 and Table 8**.

It should be noted that although this ASIS analyzed many of the most probable contingencies, it is not an all-inclusive list that can account for every operational situation. Additionally, the generator may not be able to inject any power onto the Transmission System due to constraints that fall below the threshold of mitigation for a Generator Interconnection request. Because of this, it is likely that the Customer(s) may be required to reduce their generation output to **0 MW** under certain system conditions to allow system operators to maintain the reliability of the transmission network.

Transient stability analysis for this ASIS has determined that no issues were observed for the transmission system for the thirty (30) selected faults for the interconnection of ASGI-2017-005 and the analysis shows that the generators will meet Low Voltage Ride-Through (LVRT) requirements of FERC Order #661A. As discussed above, this amount may be reduced further dependent upon system conditions.

Nothing in this study should be construed as a guarantee of delivery or transmission service. If the customer(s) wishes to move power across the facilities of SPP, a separate request for transmission service must be made on Southwest Power Pool's OASIS by the Customer(s).

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PURPOSE

An Affected System Interconnection Customer has requested an Affected System Impact Study (ASIS) consistent with the Southwest Power Pool (SPP) Open Access Transmission Tariff (OATT) for interconnection requests into the system of Associated Electric Cooperative Inc. (AECI).

The purpose of this study is to evaluate the impacts of interconnecting the AECI GI-52/SIS-23 request assigned the SPP queue identifier ASGI-2017-005. ASGI-2017-005 is requesting the interconnection of seventy-two (72) Vestas V110 2.0 MW wind turbines and associated facilities interconnecting to AECI at the Remington 138 kV substation in Osage County, OK.

The ASIS considers the Base Case as well as all Generating Facilities (and with respect to (b) below, any identified Network Upgrades associated with such higher queued interconnection) that, on the date the ASIS is commenced:

- a) are directly interconnected to the Transmission System;
- b) are interconnected to Affected Systems and may have an impact on the Interconnection Request;
- c) have a pending higher queued Interconnection Request to interconnect to the Transmission System listed in **Table 1**; or
- d) have no Queue Position but have executed an LGIA or requested that an unexecuted LGIA be filed with FERC.

Any changes to these assumptions, for example, one or more of the previously queued requests not included within this study execute an interconnection agreement and commencing commercial operation, may require a re-study of this ASIS at the expense of the Customer(s).

Nothing within this System Impact Study constitutes a request for transmission service or confers upon the Interconnection Customer(s) any right to receive transmission service rights. Should the Customer(s) require transmission service, those rights should be requested through SPP's Open Access Same-Time Information System (OASIS) or that of the applicable transmission provider.

This ASIS included prior queued generation interconnection requests. Those listed within **Table 1** are the generation interconnection requests that are assumed to have rights to either full or partial interconnection service prior to the requested in-service for this ASIS. Also listed in **Table 1** are both the amount of MW of interconnection service expected at the effective time of this study and the total MW requested of interconnection service, the fuel type, the Point of Interconnection (POI), and the current status of each particular prior queued request.

Table 1: Generation Requests Included within ASIS

Project	MW	Fuel Source	POI	Status
ASGI-2010-006	150	Wind	Remington 138kV	Commercial Operation
ASGI-2014-014	56.4	Thermal	Ferguson 69kV	Commercial Operation
ASGI-2015-004	56.36	Thermal	Coffeyville City 69kV	Commercial Operation
GEN-2002-004	200	Wind	Latham 345kV	Commercial Operation
GEN-2005-013	201	Wind	Caney River 345kV	Commercial Operation
GEN-2007-025	300	Wind	Viola 345kV	Commercial Operation
GEN-2008-013	300	Wind	Hunter 345kV	Commercial Operation
GEN-2008-021	42	Nuclear	Wolf Creek 345kV	Commercial Operation
GEN-2008-098	100.8	Wind	Waverly 345kV	Commercial Operation
GEN-2009-025	59.8	Wind	Nardins 69kV	Commercial Operation
GEN-2010-003	100.8	Wind	Waverly 345kV	Commercial Operation
GEN-2010-005	299.2	Wind	Viola 345kV	Commercial Operation
GEN-2010-055	4.5	Gas	Wekiwa 138kV	Commercial Operation
GEN-2011-057	150.4	Wind	Creswell 138kV	Commercial Operation
GEN-2012-032	300	Wind	Open Sky 345kV	Commercial Operation
GEN-2012-033	98.1	Wind	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV	Commercial Operation
GEN-2012-041	121.5	CT	Ranch Road 345kV	Commercial Operation
GEN-2013-012	147	Gas	Redbud 345kV	Commercial Operation
GEN-2013-028	559.5	Gas	Tap N Tulsa - GRDA 1 345kV	IA Executed/On schedule for 2017 COD
GEN-2013-029	300	Wind	Renfrow 345kV	Commercial Operation
GEN-2014-001	200.6	Wind	Tap Wichita - Emporia Energy Center (GEN-2014-001 Tap) 345kV	IA Executed/On Suspension
GEN-2014-028	35	CC	Riverton 161kV	Commercial Operation
GEN-2014-064	248.4	Wind	Otter 138kV	IA Executed/On Suspension
GEN-2015-001	200	Wind	Ranch Road 345kV	Commercial Operation
GEN-2015-015	154.6	Wind	Tap Medford Tap - Coyote 138kV	IA Executed/On schedule for 2017 COD
GEN-2015-016	200	Wind	Tap Marmaton - Centerville 161kV	IA Executed/On schedule for 2018 COD
GEN-2015-024	220	Wind	Tap Thistle - Wichita 345kV Dbl CKT	Commercial Operation
GEN-2015-025	220	Wind	Tap Thistle - Wichita 345kV Dbl CKT	Commercial Operation
GEN-2015-030	200.1	Wind	Sooner 345kV	IA Executed/On Suspension
GEN-2015-034	200	Wind	Ranch Road 345kV	Facility Study Stage
GEN-2015-047	300	Wind	Sooner 345kV	Facility Study Stage
GEN-2015-052	300	Wind	Tap Open Sky - Rose Hill 345kV	Facility Study Stage
GEN-2015-062	4.5	Wind	Tap and Tie South 4th - Bunch Creek & Enid Tap - Fairmont (GEN-2012-033T) 138kV	Facility Study Stage
GEN-2015-063	300	Wind	Tap Woodring - Mathewson 345kV	Facility Study Stage
GEN-2015-066	248.4	Wind	Tap Cleveland - Sooner 345kV	Facility Study Stage

Table 1: Generation Requests Included within ASIS

Project	MW	Fuel Source	POI	Status
GEN-2015-069	300	Wind	Union Ridge 230kV	Facility Study Stage
GEN-2015-073	200.1	Wind	Emporia Energy Center 345kV	Facility Study Stage
GEN-2015-083	125	Wind	Belle Plain 138kV	Facility Study Stage
GEN-2015-090	220	Wind	Tap Thistle - Wichita 345kV Dbl CKT	Facility Study Stage
GEN-2016-009	29	Thermal	Osage 69kV (514742)	Facility Study Stage
GEN-2016-022	151.8	Wind	Ranch Road 345kV (515576)	Facility Study Stage
GEN -2016-024	55.86	Wind	Midian 138kV (532990)	Facility Study Stage
GEN-2016-031	1.5MW uprate of GEN-2015- 001 (total = 201.3MW)	Wind	Ranch Road 345kV (515576)	Facility Study Stage
GEN-2016-032	200	Wind	Tap Marshall (514733)- Cottonwood Creek (514827) 138kV, (G16-032-TAP, 560077)	Facility Study Stage
GEN -2016-048	82.32	Solar	Sooner 138kV (514802)	Facility Study Stage
GEN-2016-060	25.3	Wind	Belle Plain 138kV (533063)	Facility Study Stage
GEN-2016-061	250.7	Wind	Tap Woodring (514715) – Sooner (514803) 345kV (G16- 061-TAP, 560084)	Facility Study Stage
GEN-2016-068	250	Wind	Woodring 345kV (514715)	Facility Study Stage
GEN-2016-071	200.1	Wind	Chilocco 138kV (521198)	Facility Study Stage
ASGI-2017-005	144	Wind	Remington (AECI) 138 kV	Current Study

This ASIS was required because the Affected System Interconnection Customer(s) are requesting interconnection at a location electrically close to the SPP system.

Table 2A and Table 2B below lists the higher queued required upgrade projects for which these requests have cost responsibility. DISIS-2016-001 Group 08 Impact Study was posted February 28, 2017.

DISIS-2016-001 reports can be located at the following Generation Interconnection Study URL:

http://sppoasis.spp.org/documents/swpp/transmission/GenStudies.cfm?YearType=2016_Impact_Studies

Table 2A: Upgrade Projects Required for Interconnection Service under AECI Upgrade Set #1

Upgrade Project	Type	Description	Status	Study Assignment
ERIS/NRIS Required: GEN-2015-063 Tap – Mathewson 345 kV CKT 1	Structure Replacements	Replace terminal equipment and structures to achieve conductor limit	IA Pending	DISIS-2015-002
ERIS/NRIS Required: Farber – Belle Plains 138kV CKT 1	Rebuild	Rebuild approximately 10 miles of 138kV from Farber – Belle Plains	Facility Study	DISIS-2016-001
Collinsville (GRDA)* – Skiatook Tap (AECI/KAMO)** 138kV CKT 1	Terminal Equipment	Replace terminal equipment to achieve at least 158MVA Summer Peak Emergency (Rate B)	Current Impact Study Assignment	ASGI-2017-005 (AECI GIA-052) cost allocation of \$250,000
ERIS/NRIS Required: Remington (AECI/KAMO) – Shidler (AEP)* 138kV CKT 1	Rebuild	Rebuild approximately 8.6 miles of 138kV	AECI Facility Study	Assigned to ASGI-2017- 005 (AECI-052) per AECI Impact Study
ERIS/NRIS Required: Shidler – West Pawhuska – Pawhuska Tap – Domes – Mound Road – Bartlesville 138kV CKT 1*	Rebuild	Rebuild approximately 45 miles of 138kV from Shidler – Bartlesville 138kV to achieve at least 161MVA Summer Peak Normal (Rate A) and 234 Summer Peak Emergency (Rate B)	Current Impact Study Assignment	ASGI-2017-005 (AECI GIA-052) cost allocation of \$37,000,000

Table 3B: Upgrade Projects Required for Interconnection Service under AECI Upgrade Set #2

Upgrade Project	Type	Description	Status	Study Assignment
ERIS/NRIS Required: Remington (AECI/KAMO) – Barnsdall (AEP)* 138kV CKT 1	Build	Build approximately 35 miles of 138kV	AECI Facility Study/ SPP Affected System Impact Study	Assigned to ASGI-2017- 005 (AECI-052) per AECI Impact Study. Current Study Affect System, AEP-PSO, Barnsdall Upgrade cost allocation of \$5,000,000
ERIS/NRIS Required: GEN-2015-063 Tap – Mathewson 345 kV CKT 1	Structure Replacements	Replace terminal equipment and structures to achieve conductor limit	IA Pending	DISIS-2015-002
ERIS/NRIS Required: Farber – Belle Plains 138kV CKT 1	Rebuild	Rebuild approximately 10 miles of 138kV from Farber – Belle Plains	Facility Study	DISIS-2016-001
Collinsville (GRDA)* – Skiatook Tap (AECI/KAMO)** 138kV CKT 1	Terminal Equipment	Replace terminal equipment to achieve at least 158MVA Summer Peak Emergency (Rate B)	Current Impact Study Assignment	ASGI-2017-005 (AECI GIA-052) cost allocation of \$250,000

Table 3B: Upgrade Projects Required for Interconnection Service under AECI Upgrade Set #2

Upgrade Project	Type	Description	Status	Study Assignment
ERIS/NRIS Required: Shidler – West Pawhuska – Pawhuska Tap 138kV CKT 1*	Rebuild	Rebuild approximately 21 miles of 138kV from Shidler – Pawhuska Tap 138kV to achieve at least 155 Summer Peak Emergency (Rate B)	Current Impact Study Assignment	ASGI-2017-005 (AECI GIA-052) cost allocation of \$25,200,000
ERIS/NRIS Required: Mound Road – Bartlesville 138kV CKT 1*	Rebuild	Rebuild approximately 3 miles of 138kV from Mound Road – Bartlesville 138kV to achieve at least 155 Summer Peak Normal (Rate A) and 200 Summer Peak Emergency (Rate B)	Current Impact Study Assignment	ASGI-2017-005 (AECI GIA-052) cost allocation of \$2,500,000

* Upgrades denoted will require an SPP Affected System Facilities Study agreement and deposit. These upgrades could require the need for a Construction Agreement (CA) as a result of the Affected System Facilities Study.

** Upgrades denoted also require AECI review for AECI facility mitigations.

Any changes to these assumptions may require a re-study of this ASIS at the expense of the Customer(s).

Nothing in this System Impact Study constitutes a request for transmission service or grants the Interconnection Customer(s) any rights to transmission service.

FACILITIES

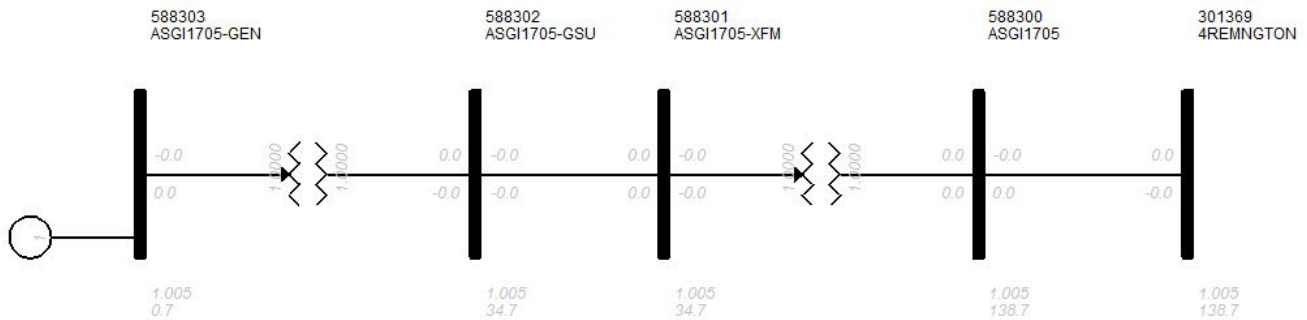
GENERATING FACILITY

The Affected System Interconnection Customers’ request is the interconnection of seventy-two (72) Vestas V110 2.0 MW wind turbines and associated facilities interconnecting to AECI at the Remington 138 kV substation in Osage County, OK.

INTERCONNECTION FACILITIES

The POI for ASGI-2017-005 Interconnection Customer connects to the Affected System Remington 138 kV substation in Osage County, OK. **Figure 1** depicts the one-line diagram for the POI and the Interconnection Request(s).

Figure 1: Proposed ASGI-2017-005 Configuration and Request Power Flow Model



BASE CASE NETWORK UPGRADES

The Network Upgrades included within the cases used for this Affected System Impact Study are those facilities that are a part of the SPP Transmission Expansion Plan or the Balanced Portfolio projects. These facilities have an approved Notification to Construct (NTC), or are in construction stages and expected to be in-service at the effective time of this study. No other upgrades were included for this ASIS. If for some reason, construction on these projects is delayed or discontinued, a restudy may be needed to determine the interconnection service availability of the Customer(s).

POWER FLOW ANALYSIS

Power flow analysis is used to determine if the transmission system can accommodate the injection from the request without violating thermal or voltage transmission planning criteria.

MODEL PREPARATION

Power flow analysis was performed using modified versions of the 2015 series of 2016 ITP Near-Term study models including these seasonal models:

- Year 1 (2016) Winter Peak (16WP)
- Year 2 (2017) Spring (17G)
- Year 2 (2017) Summer Peak (17SP)
- Year 5 (2020) Light (20L)
- Year 5 (2020) Summer (20SP)
- Year 5 (2020) Winter (20WP) peak
- Year 10 (2025) Summer (25SP) peak

To incorporate the Interconnection Customers' request, a re-dispatch of existing generation within SPP and AECL was performed with respect to the amount of the Customers' injection.

For Variable Energy Resources (VER) (solar/wind) in each power flow case, ERIS, is evaluated for the generating plants within a geographical area of the interconnection request(s) for the VERs dispatched at 100% nameplate of maximum generation. The VERs in the remote areas is dispatched at 20% nameplate of maximum generation. SPP projects are dispatched across the SPP footprint using load factor ratios. MISO projects are dispatched across the SPP footprint using load factor ratios.

Peaking units are not dispatched in the Year 2 spring and Year 5 light, or in the "High VER" summer and winter peaks. To study peaking units' impacts, the Year 1 winter peak, Year 2 summer peak, and Year 5 summer and winter peaks, and Year 10 summer peak models are developed with peaking units dispatched at 100% of the nameplate rating and VERs dispatched at 20% of the nameplate rating. Each interconnection request is also modeled separately at 100% nameplate for certain analyses.

All generators (VER and peaking) that requested Network Resource Interconnection Service (NRIS) are dispatched in an additional analysis into the interconnecting Transmission Owner's (T.O.) area at 100% nameplate with Energy Resource Interconnection Service (ERIS) only requests at 80% nameplate. This method allows for identification of network constraints that are common between regional groupings to have affecting requests share the mitigating upgrade costs throughout the cluster.

For this ASIS, only the previous queued requests listed in **Table 1** were assumed to be in-service at 100% dispatch.

STUDY METHODOLOGY AND CRITERIA

THERMAL OVERLOADS

Network constraints are found by using PSS/E AC Contingency Calculation (ACCC) analysis with PSS/E MUST First Contingency Incremental Transfer Capability (FCITC) analysis on the entire cluster grouping dispatched at the various levels previously mentioned.

For ERIS, thermal overloads are determined for system intact (n-0) (greater than or equal to 100% of Rate A - normal) and for contingency (n-1) (greater than or equal to 100% of Rate B - emergency) conditions.

The overloads are then screened to determine which of generator interconnection requests have at least

- 3% Distribution Factor (DF) for system intact conditions (n-0),
- 20% DF upon outage based conditions (n-1),
- or 3% DF on contingent elements that resulted in a non-converged solution.

Interconnection Requests that requested NRIS are also studied in a separate NRIS analysis to determine if any constraint measured greater than or equal to a 3% DF. If so, these constraints are also considered for transmission reinforcement under NRIS.

The contingency set includes all SPP control area branches and ties 69kV and above, first tier Non-SPP control area branches and ties 115 kV and above, any defined contingencies for these control areas, and generation unit outages for the SPP control areas with SPP reserve share program redispatch.

The monitored elements include all SPP control area branches, ties, and buses 69 kV and above, and all first tier Non-SPP control area branches and ties 69 kV and above. NERC Power Transfer Distribution Flowgates for SPP and first tier Non-SPP control area are monitored. Additional NERC Flowgates are monitored in second tier or greater Non-SPP control areas. Voltage monitoring was performed for SPP control area buses 69 kV and above.

VOLTAGE

For non-converged power flow solutions that are determined to be caused by lack of voltage support, appropriate transmission support will be determined to mitigate the constraint.

After all thermal overload and voltage support mitigations are determined; a full ACCC analysis is then performed to determine voltage constraints. The following voltage performance guidelines are used in accordance with the Transmission Owner local planning criteria.

SPP Areas (69kV+):

Transmission Owner	Voltage Criteria (System Intact)	Voltage Criteria (Contingency)
AEPW	0.95 – 1.05 pu	0.92 – 1.05 pu
GRDA	0.95 – 1.05 pu	0.90 – 1.05 pu
SWPA	0.95 – 1.05 pu	0.90 – 1.05 pu
OKGE	0.95 – 1.05 pu	0.90 – 1.05 pu
OMPA	0.95 – 1.05 pu	0.90 – 1.05 pu
WFEC	0.95 – 1.05 pu	0.90 – 1.05 pu
SWPS	0.95 – 1.05 pu	0.90 – 1.05 pu
MIDW	0.95 – 1.05 pu	0.90 – 1.05 pu
SUNC	0.95 – 1.05 pu	0.90 – 1.05 pu
KCPL	0.95 – 1.05 pu	0.90 – 1.05 pu
INDN	0.95 – 1.05 pu	0.90 – 1.05 pu
SPRM	0.95 – 1.05 pu	0.90 – 1.05 pu
NPPD	0.95 – 1.05 pu	0.90 – 1.05 pu
WAPA	0.95 – 1.05 pu	0.90 – 1.05 pu
WERE L-V	0.95 – 1.05 pu	0.93 – 1.05 pu
WERE H-V	0.95 – 1.05 pu	0.95 – 1.05 pu
EMDE L-V	0.95 – 1.05 pu	0.90 – 1.05 pu
EMDE H-V	0.95 – 1.05 pu	0.92 – 1.05 pu
LES	0.95 – 1.05 pu	0.90 – 1.05 pu
OPPD	0.95 – 1.05 pu	0.90 – 1.05 pu

SPP Buses with more stringent voltage criteria:

Bus Name/Number	Voltage Criteria (System Intact)	Voltage Criteria (Contingency)
TUCO 230kV 525830	0.925 – 1.05 pu	0.925 – 1.05 pu
Wolf Creek 345kV 532797	0.985 – 1.03 pu	0.985 – 1.03 pu
FCS 646251	1.001 – 1.047 pu	1.001 – 1.047 pu

Affected System Areas (115kV+):

Transmission Owner	Voltage Criteria (System Intact)	Voltage Criteria (Contingency)
AECI	0.95 – 1.05 pu	0.90 – 1.05 pu

EES-EAI	0.95 – 1.05 pu	0.90 – 1.05 pu
LAGN	0.95 – 1.05 pu	0.90 – 1.05 pu
EES	0.95 – 1.05 pu	0.90 – 1.05 pu
AMMO	0.95 – 1.05 pu	0.90 – 1.05 pu
CLEC	0.95 – 1.05 pu	0.90 – 1.05 pu
LAFA	0.95 – 1.05 pu	0.90 – 1.05 pu
LEPA	0.95 – 1.05 pu	0.90 – 1.05 pu
XEL	0.95 – 1.05 pu	0.90 – 1.05 pu
MP	0.95 – 1.05 pu	0.90 – 1.05 pu
SMMPA	0.95 – 1.05 pu	0.90 – 1.05 pu
GRE	0.95 – 1.05 pu	0.90 – 1.10 pu
OTP	0.95 – 1.05 pu	0.90 – 1.05 pu
OTP-H (115kV+)	0.97 – 1.05 pu	0.92 – 1.10 pu
ALTW	0.95 – 1.05 pu	0.90 – 1.05 pu
MEC	0.95 – 1.05 pu	0.90 – 1.05 pu
MDU	0.95 – 1.05 pu	0.90 – 1.05 pu
SPC	0.95 – 1.05 pu	0.95 – 1.05 pu
DPC	0.95 – 1.05 pu	0.90 – 1.05 pu
ALTE	0.95 – 1.05 pu	0.90 – 1.05 pu

The constraints identified through the voltage scan are then screened for the following for each interconnection request. 1) 3% DF on the contingent element and 2) 2% change in pu voltage. In certain conditions, engineering judgement was used to determine whether or not a generator had impacts to voltage constraints.

RESULTS

The ASIS ACCC analysis indicates that the Affected System Interconnection Customer(s) can interconnect their generation into the AECI transmission system at the available MW listed in the results tables after all required upgrades listed within the DISIS-2016-001 studies or latest iteration can be placed into service. ACCC results based on AECI Upgrade Set #1 for the ASIS can be found in **Table 9**, **Table 10**, and **Table 11**. ACCC results based on AECI Upgrade Set #2 for the ASIS can be found in **Table 12**, **Table 13**, and **Table 14**.

Constraints listed in **Table 11** and **Table 13** do not require additional transmission reinforcement for Interconnection Service, but could require Interconnection Customer to reduce generation in operational conditions. These transmission constraints occur when this study's generation is dispatched into the AECI footprint for ERIS and NRIS.

CURTAILMENT AND SYSTEM RELIABILITY

In no way does this study guarantee operation for all periods of time. It should be noted that although this study analyzed many of the most probable contingencies, it is not an all-inclusive list and cannot account for every operational situation. Because of this, it is likely that the Customer(s) may be required to reduce their generation output to **0 MW** under certain system conditions to allow system operators to maintain the reliability of the transmission network.

STABILITY ANALYSIS

Transient stability analysis is used to determine if the transmission system can maintain angular stability and ensure bus voltages stay within planning criteria bandwidth during and after a disturbance while considering the addition of a generator interconnection request.

MODEL PREPARATION

Transient stability analysis was performed using modified versions of the 2015 series of Model Development Working Group (MDWG) dynamic study models including the 2016 winter, 2017 and 2025 summer peak dynamic cases. The cases were adapted to resemble the power flow study cases with regards to prior queued generation requests and topology. Finally the prior queued and study generation was dispatched into the SPP footprint. Initial simulations are then carried out for a no-disturbance run of twenty (20) seconds to verify the numerical stability of the model.

DISTURBANCES

The thirty (30) contingencies were identified for use in this ASIS. These faults are listed within **Table 4**. These contingencies included three-phase faults and single-phase line faults at locations defined by SPP. Single-phase line faults were simulated by applying fault impedance to the positive sequence network at the fault location to represent the effect of the negative and zero sequence networks on the positive sequence network. The fault impedance was computed to give a positive sequence voltage at the specified fault location of approximately 60% of pre-fault voltage. This method is in agreement with SPP current practice.

With the exception of transformers, the typical sequence of events for a three-phase and single-phase fault is as follows:

1. apply fault at particular location
2. continue fault for five (5) cycles, clear the fault by tripping the faulted facility
3. run for an additional twenty (20) cycles, reclose into fault
4. continue fault for five (5) cycles, clear the fault by tripping the faulted facility

Transformer faults are typically modeled as three-phase faults, unless otherwise noted. The sequence of events for a transformer fault is as follows:

1. apply fault for five (5) cycles
2. clear the fault by tripping the affected transformer facility (unless otherwise noted there will be no re-closing into a transformer fault)

Table 4: Contingencies Evaluated

Contingency Number and Name		Description
1	FLT_01_4REMINGTON_SHILDER4_138kV_3PH	Fault on the Remington (301369) to Shidler (510403) 138kV line, near Remington. a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
2	FLT_02_4REMINGTON_4FAIRFAX_138kV_3PH	Fault on the Remington (301369) to Fairfax (300139) 138kV line, near Remington. a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
3	FLT_03_SHILDER4_FAIRFXT4_138kV_3PH	Fault on the Shidler (510403) to Fairfax Tap (510377) 138kV line, near Shidler. a. Apply fault at the Shidler 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
4	FLT_04_SHILDER4_WPAWTHSK4_138kV_3PH	Fault on the Shidler (510403) to West Pawhuska (510382) 138kV line, near Shidler. a. Apply fault at the Shidler 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
5	FLT_05_WEBBTAP4_OSAGE4_138kV_3PH	Fault on the Webber Tap (510376) to Osage (514743) 138kV line, near Webber Tap. a. Apply fault at the Webber Tap 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
6	FLT_06_PAWHTP4_DOMES4_138kV_3PH	Fault on the Pawhuska Tap (510412) to Dome (510383) 138kV line, near Pawhuska Tap. a. Apply fault at the Pawhuska Tap 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
7	FLT_07_4FAIRFAX_PAWNSW4_138kV_3PH	Fault on the Fairfax (300139) to Pawnee SW (512749) 138kV line, near Fairfax. a. Apply fault at the Fairfax 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.

Table 4: Contingencies Evaluated

Contingency Number and Name		Description
8	FLT_08_PAWNSW4_4CLEVLND_138kV_3PH	Fault on the Pawnee SW (512749) to Cleveland (300138) 138kV line, near Pawnee SW. a. Apply fault at the Pawnee SW 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
9	FLT_09_PAWNSW4_4GLENCOE_138kV_3PH	Fault on the Pawnee SW (512749) to Glencoe (301425) 138kV line, near Pawnee SW. a. Apply fault at the Pawnee SW 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
10	FLT_10_4CLEVLND_4JAVINE_138kV_3PH	Fault on the Cleveland (300138) to Javine (300996) 138kV line, near Cleveland. a. Apply fault at the Cleveland 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
11	FLT_11_4SFORKKTP_4SFORKK_138kV_3PH	Fault on the South Fork Tap (301339) to South Fork (300165) 138kV line, near South Fork Tap. a. Apply fault at the Fork Tap 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
12	FLT_12_MOUNDRD4_BVCOM4_138kV_3PH	Fault on the Mound Road (510395) to Bartlesville Comanche (510390) 138kV line, near Mound Road. a. Apply fault at the Mound Road 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
13	FLT_13_TNO4_SKIATOK4_138kV_3PH	Fault on the Tulsa North (509817) to Skiatook Tap (509884) 138kV line, near Tulsa North. a. Apply fault at the Tulsa North 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
14	FLT_14_TNO4_NES4_138kV_3PH	Fault on the Tulsa North (509817) to Northeastern (510396) 138kV line, near Tulsa North. a. Apply fault at the Tulsa North 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.

Table 4: Contingencies Evaluated

Contingency Number and Name		Description
15	FLT_15_OSAGE4_SNRPMPT4_138kV_3PH	Fault on the Osage (514743) to Sooner Pump Tap (514798) 138kV line, near Osage. a. Apply fault at the Osage 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
16	FLT_16_OSAGE4_MARLNDT4_138kV_3PH	Fault on the Osage (514743) to Marland Tap (514770) 138kV line, near Osage. a. Apply fault at the Osage 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
17	FLT_17_OSAGE4_STDBEAR4_138kV_3PH	Fault on the Osage (514743) to Standing Bear (514758) 138kV line, near Osage. a. Apply fault at the Osage 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
18	FLT_18_OSAGE4_WHEAGLE4_138kV_3PH	Fault on the Osage (514743) to White Eagle (514761) 138kV line, near Osage. a. Apply fault at the Osage 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
19	FLT_19_4STILWTR_4RAMSEY_138kV_3PH	Fault on the Stillwater (300141) to Ramsey (300844) 138kV line, near Stillwater. a. Apply fault at the Stillwater 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
20	FLT_20_4STILWTR_NORTHTP4_138kV_3PH	Fault on the Stillwater (300141) to North Tap (512731) 138kV line, near Stillwater. a. Apply fault at the Stillwater 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
21	FLT_21A_4REMINGTON_SHILDER4PO_138kV_3PH	Prior outage on the Pawnee SW (512749) to Glencoe (301425) 138kV line: Fault on the Remington (301369) to Shidler (510403) 138kV line, near Remington. a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.

Table 4: Contingencies Evaluated

Contingency Number and Name		Description
22	FLT_21B_4REMINGTON_SHILDER4PO_138kV_3PH	<p>Prior outage on the Pawnee SW (512749) to Cleveland (300138) 138kV line: Fault on the Remington (301369) to Shidler (510403) 138kV line, near Remington.</p> <p>a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>
23	FLT_22A_4REMINGTON_4FAIRFAXPO_138kV_3PH	<p>Prior outage on the Shidler (510403) to Fairfax Tap (510377) 138kV line: Fault on the Remington (301369) to Fairfax (300139) 138kV line, near Remington.</p> <p>a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>
24	FLT_22B_4REMINGTON_4FAIRFAXPO_138kV_3PH	<p>Prior outage on the Shidler (510403) to West Pawhuska (510382) 138kV line: Fault on the Remington (301369) to Fairfax (300139) 138kV line, near Remington.</p> <p>a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>
25	FLT_23_OSAGE4_OSAGE2_138_69kV_1PH	<p>Fault on the Osage (514743) 138kV to (514742) 69kV transformer circuit 1, near Osage 138kV.</p> <p>a. Apply fault at the Osage 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line.</p>
26	FLT_24_4FAIRFAX_2FAIRFAX_138_69kV_3PH	<p>Fault on the Fairfax (300139) 138V to (300929) 69kV transformer circuit 1, near Fairfax 138kV.</p> <p>a. Apply fault at the Fairfax 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line.</p>
27	FLT_25_4STILWTR_2WILLIAMS_138kV_1PH	<p>Fault on the Stillwater (300141) to Williams (301413) 138kV line, near Stillwater.</p> <p>a. Apply fault at the Stillwater 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>
28	FLT_26_4CLEVLND_CLEVLND4_138kV_3PH	<p>Fault on the Cleveland (300138) to GRDA Cleveland (512729) 138kV line, near Cleveland.</p> <p>a. Apply fault at the Cleveland 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.</p>

Table 4: Contingencies Evaluated

Contingency Number and Name		Description
29	FLT_27_4CLEVLND_4SILVCTY_138kV_3PH	Fault on the Cleveland (300138) to Silver City (300140) 138kV line, near Cleveland. a. Apply fault at the Cleveland 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
30	FLT_28_4CLEVLND_4CLEVLNDXFMR_138kV_3PH	Fault on the Cleveland (300138) to Cleveland XFMR (301429) 138kV line, near Cleveland. a. Apply fault at the Cleveland 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.

RESULTS

Results of the stability analysis are summarized in **Table 5**. These results are valid for ASGI-2017-005 interconnecting with a generation amount up to 144 MW.

Table 5: Fault Analysis Results

		Single Phase			Three Phase		
		2016WP	2017SP	2025SP	2016WP	2017SP	2025SP
1	FLT_01_4REMINGTON_SHILDER4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
2	FLT_02_4REMINGTON_4FAIRFAX_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
3	FLT_03_SHILDER4_FAIRFXT4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
4	FLT_04_SHILDER4_WPAWTHSK4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
5	FLT_05_WEBBTAP4_OSAGE4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
6	FLT_06_PAWHTP4_DOMES4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
7	FLT_07_4FAIRFAX_PAWNSW4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
8	FLT_08_PAWNSW4_4CLEVLND_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
9	FLT_09_PAWNSW4_4GLENCOE_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
10	FLT_10_4CLEVLND_4JAVINE_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
11	FLT_11_4SFORKKTP_4SFORKK_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
12	FLT_12_MOUNDRD4_BVCOM4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
13	FLT_13_TNO4_SKIATOK4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
14	FLT_14_TNO4_NES4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
15	FLT_15_OSAGE4_SNRPMPT4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
16	FLT_16_OSAGE4_MARLNDT4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
17	FLT_17_OSAGE4_STDBEAR4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
18	FLT_18_OSAGE4_WHEAGLE4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
19	FLT_19_4STILWTR_4RAMSEY_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
20	FLT_20_4STILWTR_NORTHTP4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
21	FLT_21A_4REMINGTON_SHILDER4PO_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
22	FLT_21B_4REMINGTON_SHILDER4PO_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
23	FLT_22A_4REMINGTON_4FAIRFAXPO_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
24	FLT_22B_4REMINGTON_4FAIRFAXPO_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
25	FLT_23_OSAGE4_OSGE2_138_69kV_1PH	Stable	Stable	Stable	Stable	Stable	Stable
26	FLT_24_4FAIRFAX_2FAIRFAX_138_69kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
27	FLT_25_4STILWTR_2WILLIAMS_138kV_1PH	Stable	Stable	Stable	Stable	Stable	Stable
28	FLT_26_4CLEVLND_CLEVLND4_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable

Table 5: Fault Analysis Results

		Single Phase			Three Phase		
		2016WP	2017SP	2025SP	2016WP	2017SP	2025SP
29	FLT_27_4CLEVLND_4SILVCTY_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable
30	FLT_28_4CLEVLND_4CLEVLNDXFMR_138kV_3PH	Stable	Stable	Stable	Stable	Stable	Stable

FERC LVRT COMPLIANCE

FERC Order #661A places specific requirements on wind farms through its Low Voltage Ride Through (LVRT) provisions. For Interconnection Agreements signed after December 31, 2006, wind farms shall stay on line for faults at the POI that draw the voltage down at the POI to 0.0 pu.

Fault contingencies were developed to verify that wind farms remain on line when the POI voltage is drawn down to 0.0 pu. These contingencies are shown in **Table 6**.

Table 6: LVRT Contingencies

Contingency Number and Name		Description
1	FLT_01_4REMINGTON_SHILDER4_138kV_3PH	Fault on the Remington (301369) to Shidler (510403) 138kV line, near Remington. a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
2	FLT_02_4REMINGTON_4FAIRFAX_138kV_3PH	Fault on the Remington (301369) to Fairfax (300139) 138kV line, near Remington. a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
3	FLT_21A_4REMINGTON_SHILDER4PO_138kV_3PH	Prior outage on the Pawnee SW (512749) to Glencoe (301425) 138kV line: Fault on the Remington (301369) to Shidler (510403) 138kV line, near Remington. a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
4	FLT_21B_4REMINGTON_SHILDER4PO_138kV_3PH	Prior outage on the Pawnee SW (512749) to Cleveland (300138) 138kV line: Fault on the Remington (301369) to Shidler (510403) 138kV line, near Remington. a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.
5	FLT_22A_4REMINGTON_4FAIRFAXPO_138kV_3PH	Prior outage on the Shidler (510403) to Fairfax Tap (510377) 138kV line: Fault on the Remington (301369) to Fairfax (300139) 138kV line, near Remington. a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.

Table 6: LVRT Contingencies

Contingency Number and Name		Description
6	FLT_22B_4REMINGTON_4FAIRFAXPO_138kV_3PH	<p>Prior outage on the Shidler (510403) to West Pawhuska (510382) 138kV line: Fault on the Remington (301369) to Fairfax (300139) 138kV line, near Remington.</p> <ol style="list-style-type: none"> a. Apply fault at the Remington 138kV bus. b. Clear fault after 5 cycles by tripping the faulted line. c. Wait 20 cycles, and then re-close the line in (b) back into the fault. d. Leave fault on for 5 cycles, then trip the line in (b) and remove fault.

The required prior queued project wind farms remained online for the fault contingencies described in this section as well as the fault contingencies described in the Disturbances section of this report. ASGI-2017-005 is found to be in compliance with FERC Order #661A.

SHORT CIRCUIT ANALYSIS

A short circuit analysis was performed on the 2017 & 2025 Summer Peak power flow cases using the PSS/E ASCC program. Since the power flow model does not contain negative and zero sequence data, only three-phase symmetrical fault current levels were calculated at the point of interconnection up to and including five levels away. The results of the short circuit analysis are shown on the next page.

ASGI-2017-005 Short Circuit Analysis Results (2017SP)

PSS@E-32.2.0 ASCC SHORT CIRCUIT CURRENTS FRI, MAY 26 2017 11:31
 2015 MDWG FINAL WITH 2013 MMWG, UPDATED WITH 2014 SERC & MRO
 MDWG 17S WITH MMWG 15S, MRO 16W TOPO/16S PROF, SERC 16S

OPTIONS USED:

- FLAT CONDITIONS
- BUS VOLTAGES SET TO 1 PU AT 0 PHASE ANGLE
- GENERATOR P=0, Q=0
- TRANSFORMER TAP RATIOS=1.0 PU and PHASE ANGLES=0.0
- LINE CHARGING=0.0 IN +/-0 SEQUENCE
- LOAD=0.0 IN +/- SEQUENCE, CONSIDERED IN ZERO SEQUENCE
- LINE/FIXED/SWITCHED SHUNTS=0.0 AND MAGNETIZING ADMITTANCE=0.0 IN +/-0

SEQUENCE

- DC LINES AND FACTS DEVICES BLOCKED
- TRANSFORMER ZERO SEQUENCE IMPEDANCE CORRECTIONS IGNORED

THREE PHASE FAULT

X-----	BUS -----X	/I+/	AN(I+)
301369	[4REMNGTON 138.00]	AMP	8843.3 -81.62
300139	[4FAIRFAX 138.00]	AMP	8015.5 -82.25
300919	[4RALSTNBND 138.00]	AMP	3264.5 -80.71
301379	[4OSAGEWIND 138.00]	AMP	7891.5 -81.46
510403	[SHIDLER4 138.00]	AMP	8729.5 -79.87
588300	[ASGI1705 138.00]	AMP	6167.2 -82.48
300929	[2FAIRFAX 69.000]	AMP	4971.7 -81.04
510377	[FAIRFXT4 138.00]	AMP	8253.1 -79.12
510382	[WPAWHSK4 138.00]	AMP	5932.2 -77.70
512749	[PAWNSW4 138.00]	AMP	10217.6 -83.75
300138	[4CLEVLND 138.00]	AMP	16832.1 -85.45
300922	[2BURBANK 69.000]	AMP	2684.6 -75.02
300937	[2NAVLRES 69.000]	AMP	3361.4 -72.59
301425	[4GLENCOE 138.00]	AMP	10138.1 -82.91
510376	[WEBBTAP4 138.00]	AMP	8201.1 -79.03
510412	[PAWH-TP4 138.00]	AMP	5938.4 -77.92
512758	[2GETTYTAP 69.000]	AMP	3779.7 -80.16
300140	[4SILVCTY 138.00]	AMP	15821.4 -82.23
300141	[4STILWTR 138.00]	AMP	13672.8 -81.35
300644	[2GETTY 69.000]	AMP	3708.9 -79.92
300939	[2PAWNEE 69.000]	AMP	3552.3 -78.25
300940	[2PAWYA 69.000]	AMP	2869.9 -69.69
300996	[4JAVINE 138.00]	AMP	6536.7 -82.68

301429 [4CLEVLNDXFMR138.00] AMP 16832.1 -85.45
510383 [DOMES 4 138.00] AMP 6332.2 -78.59
510432 [SHIDWFC4 138.00] AMP 5689.0 -76.02
510434 [HERITAGETRL4138.00] AMP 4315.6 -76.99
512729 [CLEVLND 4 138.00] AMP 16829.8 -85.47
514743 [OSAGE 4 138.00] AMP 16482.1 -81.55
300131 [4FISHERTP 138.00] AMP 14524.5 -80.87
300137 [4BRISTOW 138.00] AMP 7123.2 -79.76
300844 [4RAMSEY 138.00] AMP 10588.3 -79.79
300934 [2HALETP 69.000] AMP 4683.9 -80.55
300943 [2SILVCTY 69.000] AMP 10103.6 -79.23
301337 [2PRSHNGTP 69.000] AMP 2881.6 -69.52
301339 [4SFORKKTP 138.00] AMP 6825.4 -82.74
301413 [2WILLIAMS 69.000] AMP 20752.9 -76.60
301430 [2CLEVLNDXFMR69.000] AMP 10326.7 -83.69
510375 [WEBBCTY4 138.00] AMP 4350.1 -74.42
510395 [MOUNDRD4 138.00] AMP 9221.3 -79.05
512675 [PAWNEGR2 69.000] AMP 3312.8 -76.71
512694 [CLEVLND7 345.00] AMP 14981.6 -86.33
512726 [SILVCTYGR4 138.00] AMP 15665.0 -82.32
512731 [NORTHTP4 138.00] AMP 10987.1 -82.75
514742 [OSGE 2 69.000] AMP 15711.8 -84.42
514758 [STDBEAR4 138.00] AMP 13855.3 -81.48
514761 [WHEAGLE4 138.00] AMP 15789.5 -81.52
514770 [MARLNDT4 138.00] AMP 10889.3 -76.67
514798 [SNRPMPT4 138.00] AMP 20534.2 -85.49
529308 [OMPWHSK4 138.00] AMP 4086.8 -76.86

Short Circuit Analysis Results (2025SP)

PSS@E-32.2.0 ASCC SHORT CIRCUIT CURRENTS FRI, MAY 26 2017 11:31
 2015 MDWG FINAL WITH 2013 MMWG, UPDATED WITH 2014 SERC & MRO
 MDWG 2025S WITH MMWG 2024S, MRO & SERC 2025 SUMMER

OPTIONS USED:

- FLAT CONDITIONS
 - BUS VOLTAGES SET TO 1 PU AT 0 PHASE ANGLE
 - GENERATOR P=0, Q=0
 - TRANSFORMER TAP RATIOS=1.0 PU and PHASE ANGLES=0.0
 - LINE CHARGING=0.0 IN +/-/0 SEQUENCE
 - LOAD=0.0 IN +/- SEQUENCE, CONSIDERED IN ZERO SEQUENCE
 - LINE/FIXED/SWITCHED SHUNTS=0.0 AND MAGNETIZING ADMITTANCE=0.0 IN +/-/0 SEQUENCE
 - DC LINES AND FACTS DEVICES BLOCKED
 - TRANSFORMER ZERO SEQUENCE IMPEDANCE CORRECTIONS IGNORED

THREE PHASE FAULT

X-----	BUS -----X	/I+/	AN(I+)		
301369	[4REMNGTON 138.00]	AMP	8906.4	-81.63	
300139	[4FAIRFAX 138.00]	AMP	8049.0	-82.25	
300919	[4RALSTNBND 138.00]	AMP	3273.1	-80.71	
301379	[4OSAGEWIND 138.00]	AMP	7940.7	-81.46	
510403	[SHIDLER4 138.00]	AMP	8826.5	-79.89	
588300	[ASGI1705 138.00]	AMP	6191.2	-82.48	
300929	[2FAIRFAX 69.000]	AMP	4975.7	-81.04	
510377	[FAIRFXT4 138.00]	AMP	8342.7	-79.12	
510382	[WPAWHSK4 138.00]	AMP	6056.5	-77.88	
512749	[PAWNSW4 138.00]	AMP	10245.9	-83.76	
300138	[4CLEVLND 138.00]	AMP	16876.2	-85.45	
300922	[2BURBANK 69.000]	AMP	2685.7	-75.01	
300937	[2NAVLRES 69.000]	AMP	3362.9	-72.59	
301425	[4GLENCOE 138.00]	AMP	10170.3	-82.95	
510376	[WEBBTAP4 138.00]	AMP	8290.1	-79.03	
510412	[PAWH-TP4 138.00]	AMP	6110.2	-78.22	
512758	[2GETTYTAP 69.000]	AMP	3781.7	-80.16	
300140	[4SILVCTY 138.00]	AMP	15901.2	-82.24	
300141	[4STILWTR 138.00]	AMP	13741.3	-81.43	
300644	[2GETTY 69.000]	AMP	3710.8	-79.93	
300939	[2PAWNEE 69.000]	AMP	3553.8	-78.25	
300940	[2PAWYA 69.000]	AMP	2870.8	-69.69	
300996	[4JAVINE 138.00]	AMP	6543.2	-82.68	
301429	[4CLEVLNDXFMR138.00]	AMP	16876.2	-85.45	
510383	[DOMES 4 138.00]	AMP	6465.9	-78.77	
510432	[SHIDWFC4 138.00]	AMP	5731.6	-75.99	
510434	[HERITAGETRL4138.00]	AMP	4481.5	-77.45	
512729	[CLEVLND 4 138.00]	AMP	16873.7	-85.48	
514743	[OSAGE 4 138.00]	AMP	17374.5	-81.82	

300131	[4FISHERTP	138.00]	AMP	14580.5	-80.86
300137	[4BRISTOW	138.00]	AMP	7200.0	-79.86
300844	[4RAMSEY	138.00]	AMP	10602.6	-79.80
300934	[2HALETP	69.000]	AMP	4686.0	-80.55
300943	[2SILVCTY	69.000]	AMP	10120.0	-79.23
301337	[2PRSHNGTP	69.000]	AMP	2882.4	-69.51
301339	[4SFORKKTP	138.00]	AMP	6832.5	-82.73
301413	[2WILLIAMS	69.000]	AMP	21533.6	-76.61
301430	[2CLEVLNDXFMR	69.000]	AMP	10335.9	-83.69
510375	[WEBBCTY4	138.00]	AMP	4374.9	-74.39
510395	[MOUNDRD4	138.00]	AMP	9335.0	-79.14
512675	[PAWNEGR2	69.000]	AMP	3314.1	-76.71
512694	[CLEVLND7	345.00]	AMP	15036.8	-86.33
512726	[SILVCTYGR4	138.00]	AMP	15743.0	-82.33
512731	[NORTHTP4	138.00]	AMP	11007.3	-82.78
514742	[OSGE 2	69.000]	AMP	18589.4	-84.61
514758	[STDBEAR4	138.00]	AMP	14435.5	-81.66
514761	[WHEAGLE4	138.00]	AMP	16434.3	-81.62
514770	[MARLNDT4	138.00]	AMP	11216.6	-76.66
514798	[SNRPMPT4	138.00]	AMP	20807.6	-85.54
529308	[OMPWHSK4	138.00]	AMP	4252.2	-77.35

CONCLUSION

An Affected System Interconnection Customer has requested an Affected System Impact Study (ASIS) under the Southwest Power Pool Open Access Transmission Tariff (OATT) for ASGI-2017-005. ASGI-2017-005 (144 MW) wind generating facilities is to be interconnected into the system of AECL. ASGI-2017-005 has requested this ASIS to determine the impacts of interconnecting to the transmission system with all required Network Upgrades identified in the DISIS-2016-001 Impact Study placed into service.

The ASIS analysis has determined that the ASGI-2017-005 request can interconnect 144 MW of generation with ERIS and NRIS with the study dispatch assumption listed in **Table 1** provided the Network Upgrades listed in **Table 2A or Table 2B** are able to be placed in service.

It should be noted that although this ASIS analyzed many of the most probable contingencies, it is not an all-inclusive list that can account for every operational situation. Additionally, the generator may not be able to inject any power onto the Transmission System due to constraints that fall below the threshold of mitigation for a Generator Interconnection request. Because of this, it is likely that the Customer(s) may be required to reduce their generation output to **0 MW** under certain system conditions to allow system operators to maintain the reliability of the transmission network.

Transient stability analysis for this ASIS has determined that no issues were observed for the transmission system for the twenty-eight (28) selected faults for the interconnection of ASGI-2017-005.

Any changes to these assumptions, for example, one or more of the previously queued requests not included within this study execute an interconnection agreement and commencing commercial operation, may require a re-study of this ASIS at the expense of the Customer.

Nothing in this System Impact Study constitutes a request for transmission service or confers upon the Interconnection Customer any right to receive transmission service.

AECI UPGRADE SETS

Table 7: AECI Upgrade Set #1

Upgrades
Fairfax 138/69kV Transformers CKT 1 & 2 (84 MVA)
Remington - Shidler 138kV rebuild
Remington - Fairfax 138kV rebuild
Fairfax - Nava Reserve - Pawya - Pershing Tap 69kV

Table 8: AECI Upgrade Set #2

Upgrades
Fairfax 138/69kV Transformers CKT 1 & 2 (84 MVA)
Remington - Barnsdal 138kV build
Fairfax - Nava Reserve - Pawya - Pershing Tap 69kV

THERMAL AND STEADY STATE VOLTAGE CONSTRAINTS TABLES BASE ON AECI UPGRADE SET #1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	1	169.1952	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	1	168.5321	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	1	168.4882	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	1	168.2414	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	1	168.1235	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	1	150.647	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08NR	17G	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	1	150.1305	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	213	213	1	137.4102	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	213	213	1	137.3247	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84964	121.8839	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84964	121.8839	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84888	120.713	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84888	120.713	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84906	119.0266	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84906	119.0266	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84912	116.6683	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84912	116.6683	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84895	116.6427	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84895	116.6427	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84964	108.7934	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84964	108.7934	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08NR	17G	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84888	108.0731	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08NR	17G	ASGI_17_05	FROM->TO	4REMNGTON 138.00 - SHIDLER 138KV CKT 1	174	174	0.84888	108.0731	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.28803	146.4688	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.28743	143.0354	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.28636	142.937	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.28744	127.1548	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.28636	125.8048	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.24339	125.4858	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.24339	125.4858	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.24481	122.2546	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.24481	122.2546	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.28791	118.9521	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20768	118.952	BARNSDALL PUMP STATION - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.24431	118.9027	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.24431	118.9027	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20768	118.8969	P12:138:AEPW:MOUNDRD4:BARNAL4
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.28811	116.4712	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20768	116.2894	BARNSDALL - BARNSDALL PUMP STATION 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.28744	115.3213	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20768	113.1902	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20768	113.1866	P12:138:AEPW:BARNAL4:T.NO--4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20768	112.6636	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.24339	110.4446	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.24339	110.4446	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16483	107.7897	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16483	107.7897	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20768	104.6448	BARNSDALL PUMP STATION - MOUND ROAD 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20768	104.5891	P12:138:AEPW:MOUNDRD4:BARNAL4
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2443	104.3808	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2443	104.3808	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16249	103.1208	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16194	103.0894	BASE CASE
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20768	101.9757	BARNSDALL - BARNSDALL PUMP STATION 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16366	101.8258	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.28791	101.2293	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.24467	101.2219	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.24467	101.2219	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16249	100.2423	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1	143	143	0.04952	110.2464	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1	143	143	0.04952	110.2464	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.40235	139.4529	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.40152	136.3571	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.3996	132.7416	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.40166	123.4473	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.22821	121.9421	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.22821	121.9421	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.23196	118.1815	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.23196	118.1815	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.3996	117.1758	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.34113	115.5351	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.34113	115.5351	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.33873	115.3203	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.33873	115.3203	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.2308	115.2836	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.2308	115.2836	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.40243	114.3861	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.40258	112.8199	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.34044	112.5271	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.34044	112.5271	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.40159	111.749	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.2212	109.9089	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22433	108.681	CLEVELAND - G15066_T 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.22821	107.6882	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.22821	107.6881	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.2212	106.1436	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22338	106.0764	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22433	104.4248	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22237	102.3741	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22237	102.3741	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22237	102.3736	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22237	102.3736	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22338	101.8912	G15066_T 345.00 - SOONER 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.33873	101.7733	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.33873	101.7733	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.22258	101.7599	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22469	101.3068	GEN511839 1-NORTHEASTERN STATION #2
08ALL	25SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.34056	100.9107	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.34056	100.9107	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22145	100.162	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22145	100.162	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22145	100.1616	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22145	100.1616	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22533	100.0979	CANEYRV7 345.00 - NEOSHO 345KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.21965	100.0654	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.21965	100.0654	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.21965	100.0647	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.21965	100.0647	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	152	152	0.22605	99.7	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.232	99.5	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.232	99.5	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.22277	99.5	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.22277	99.5	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.40235	143.6171	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.40152	140.6478	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.3996	133.7521	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.40166	127.5568	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.22821	122.9464	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.22821	122.9464	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.23196	122.2577	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.23196	122.2577	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.34113	119.6388	FAIRFAX - PAWNW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.34113	119.6388	FAIRFAX - PAWNW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2308	119.4859	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2308	119.4859	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.3996	118.1748	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.34044	116.7544	FAIRFAX - PAWNW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.34044	116.7544	FAIRFAX - PAWNW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.40243	116.5537	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.33873	116.3266	FAIRFAX - PAWNW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.33873	116.3266	FAIRFAX - PAWNW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.40258	115.6712	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.40159	114.6106	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22433	112.71	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.2212	110.9071	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22338	110.2301	CLEVELAND - G15066_T 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.22821	108.6837	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.22821	108.6837	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22433	108.4627	G15066_T 345.00 - SOONER 345KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.2212	107.1332	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22237	106.465	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22237	106.465	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22237	106.4645	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22237	106.4645	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22338	106.0549	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22469	105.3786	GEN511839 1-NORTHEASTERN STATION #2
08ALL	25SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.34056	104.9663	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.34056	104.9663	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22145	104.378	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22145	104.378	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22145	104.3776	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22145	104.3776	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22533	104.1811	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22605	103.8129	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22378	103.2021	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22524	102.8745	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.23096	102.8166	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.23096	102.8166	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.33873	102.765	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.33873	102.7649	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.22258	102.76	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.23684	102.638	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22613	102.3953	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22442	101.7132	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.232	101.6847	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.232	101.6847	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22535	101.6482	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22535	101.6439	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22533	101.2215	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22504	101.132	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.21965	101.0524	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.21965	101.0524	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.21965	101.0518	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.21965	101.0518	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.21719	100.9801	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22524	100.6287	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.22277	100.5399	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.22277	100.493	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.23585	100.4466	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22605	100.412	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.22258	100.3061	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.24085	100.2496	4GLENCOE 138.00 - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22514	100.242	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.21719	100.2393	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2231	100.1863	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2231	100.1863	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2231	100.1604	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2231	100.1604	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22535	100.1447	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.40243	100.055	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.21719	100	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.24967	100	CLEAVELAND - PAWNWSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.24967	100	CLEAVELAND - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.24085	99.9	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.22261	99.9	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.22429	99.6	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03311	123.7328	BASE CASE

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03286	122.2613	BASE CASE
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03747	116.385	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03331	115.8859	BASE CASE
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03749	114.6052	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03337	110.4306	SUMNER 4 - TIMBJCT4 138KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03747	108.3557	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03615	106.3013	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03615	106.0016	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03286	105.9609	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03615	105.8818	P12:069:WERE:BELL-CRSW_69::
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03337	105.7518	TIMBJCT4 (TIMJ TX-1) 138/69/13.2KV TRANSFORMER CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03615	104.5707	CITY OF WELLINGTON - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03998	104.5673	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0371	104.4071	TIMBER JUNCTION - UDALL 69KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0371	104.1555	P12:069:WERE:TIMJ-WEAV_69::
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0371	103.1345	RICHLAND - UDALL 69KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03998	102.699	MDFRDTP4 138.00 - RENFROW4 138.00 138KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03277	102.053	DBL-G1524-WI
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0371	101.7797	RICHLAND - ROSE HILL JUNCTION 69KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03615	101.015	BELL - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.04491	100.9044	SOONER (SOONER5) 345/138/13.8KV TRANSFORMER CKT 1
08NR	17G	ASGL_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03747	100.278	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03269	100	P12:138:OKGE:3TERM2
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0371	99.9	ROSE HILL JUNCTION - WEAVER 69KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03264	99.9	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0323	99.6	EL PASO - ROSE HILL 138KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03615	99.5	BELL - PECK 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05135	114.9936	BASE CASE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05134	113.1274	BASE CASE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05395	111.6001	BASE CASE
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05373	110.3904	BASE CASE
08NR	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0763	108.6197	SOONER - SPRING CREEK 345KV CKT 1
08NR	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0763	108.6073	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05084	106.9759	BASE CASE
08NR	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.08165	106.4218	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05094	105.5242	BASE CASE
08NR	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04796	104.9705	CLEVELAND - G15066_T 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.07605	103.9684	SOONER - SPRING CREEK 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.07605	103.7801	NORTHWEST - SPRING CREEK 345KV CKT 1
08NR	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05183	102.3315	CLEVELAND - G15066_T 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04796	101.3759	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.40235	152.0275	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.40152	149.5222	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.3996	137.9988	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.40166	136.8496	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.23196	130.5352	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.23196	130.5352	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2308	128.2238	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2308	128.2238	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.34113	127.9355	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.34113	127.9355	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22821	127.1614	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22821	127.1614	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.34044	125.5093	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.34044	125.5093	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.3996	122.3505	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.40243	121.8845	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22433	120.9348	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.33873	120.5143	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.33873	120.5143	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.40258	119.6815	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22338	118.912	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.40159	118.7284	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22433	116.6762	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2212	115.0974	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22338	114.7277	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22237	114.7205	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22237	114.7205	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22237	114.7201	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22237	114.7201	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.34056	114.1543	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.34056	114.1543	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	113.6071	GEN511839 1-NORTHEASTERN STATION #2
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22145	113.0944	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22145	113.0944	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22145	113.094	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22145	113.094	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22821	112.8383	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22821	112.8382	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22533	112.4299	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22605	112.0664	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.23096	111.9814	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.23096	111.9814	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	111.902	GEN511839 1-NORTHEASTERN STATION #2
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2212	111.2771	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22524	111.1062	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.23684	110.891	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22613	110.6297	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22442	110.4204	CANEYRV7 345.00 - NEOSHO 345KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22535	109.9032	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22535	109.8997	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22504	109.8383	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22533	109.4412	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21719	109.3606	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.23585	109.1616	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22524	108.8549	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22605	108.6451	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21719	108.597	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.24085	108.4956	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22514	108.4777	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2231	108.4709	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2231	108.4709	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2231	108.4504	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2231	108.4504	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21719	108.3936	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22535	108.3866	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22429	108.2706	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.24085	108.107	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22445	107.7059	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22445	107.7039	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21632	107.6669	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22442	107.4754	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22514	107.4439	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22049	107.417	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.25317	107.3046	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.25317	107.3046	CLEVELAND - PAWNSW4 138.00 138KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22585	107.1983	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22049	107.0283	NOWATA - WATOVA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22744	106.9858	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.232	106.9491	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.232	106.9491	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22258	106.932	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	106.9225	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22591	106.9016	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.33873	106.8953	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.33873	106.8953	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22049	106.8843	P12:138:AEPW:NOWATA-4:N.E.S-4
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	106.8755	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21632	106.8667	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.24035	106.7964	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22591	106.779	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	106.7634	GEN512688 2-GRDA1 GSU2 22
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22219	106.7629	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22219	106.7629	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22219	106.7449	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22219	106.7449	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22591	106.709	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22464	106.694	P12:138:OKGE:3TERM2
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	106.6834	GEN509394 1-FLINT CREEK
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22585	106.6589	EL PASO - FARBER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21632	106.6528	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22585	106.6479	P13:069-138:WERE:ELPA_TX-1:.
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.23584	106.6386	SOONER (SOONER5) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2246	106.6024	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22504	106.5972	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22533	106.541	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.24035	106.3925	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	106.3562	GEN511836 1-NORTHEASTERN STATION #1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21007	106.3036	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	106.259	GEN511840 1-NORTHEASTERN STATION #3
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22445	106.2497	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2242	106.2309	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22495	106.1984	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22495	106.1984	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22429	106.1745	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22522	106.1515	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22579	106.1278	CLEVELAND - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	106.0537	GEN513601 1-GRECCTG_1 20.000
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21007	106.0499	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21007	106.0387	P12:138:AEPW:BARNAL4:T.NO.--4
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22657	105.9631	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22049	105.9259	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22472	105.8965	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22881	105.8382	FAIRFAX - NAVAL RESERVE 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22483	105.7691	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22579	105.7668	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2254	105.7628	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2254	105.7628	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22695	105.7387	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21959	105.6924	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22692	105.5858	4SFORKKTP 138.00 - SKIATOOK TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	105.551	P12:138:OKGE:3TERM2
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	105.4554	GEN512688 2-GRDA1 GSU2 22
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22374	105.4507	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22552	105.3395	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.40243	105.3231	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21959	105.2821	NOWATA - WATOVA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2242	105.2378	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.21965	105.1674	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.21965	105.1674	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.21965	105.1668	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.21965	105.1668	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	105.1632	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21959	105.1289	P12:138:AEPW:NOWATA-4:N.E.S-4
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.25158	105.1227	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.25158	105.1227	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	105.1157	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22351	105.0721	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	104.961	GEN509394 1-FLINT CREEK
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2246	104.8507	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22655	104.7916	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2092	104.7237	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22277	104.7148	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22277	104.6658	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22404	104.6656	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22404	104.6656	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22442	104.5925	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	104.5908	GEN511836 1-NORTHEASTERN STATION #1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	104.4987	GEN511840 1-NORTHEASTERN STATION #3
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2092	104.4721	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2092	104.4608	P12:138:AEPW:BARNSAL4:T.NO.--4
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22258	104.442	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22553	104.3397	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22484	104.3299	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	104.2738	GEN513601 1-GRECCTG_1 20.000
08ALL	17G	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.34119	104.2368	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.34119	104.2368	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22381	104.2105	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.21959	104.1623	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22428	104.1421	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.24967	104.0962	CLEVELAND - PAWNSW4 138.00 138KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.24967	104.0962	CLEVELAND - PAWN SW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22261	104.0761	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22786	104.0403	FAIRFAX - NAVAL RESERVE 69KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22484	103.9588	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22599	103.8979	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	103.4962	BASE CASE
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22277	103.4633	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22342	103.2877	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2324	102.5112	SOONER (SOONER5) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.23405	102.4703	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22261	102.3076	G15063_T 345.00 - WOODRING 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2212	102.1993	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22258	101.982	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22218	101.7259	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22218	101.7259	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	101.7044	BASE CASE
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22156	101.5141	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22156	101.5141	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22156	101.5139	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22156	101.5139	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22381	101.3913	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.23225	101.3566	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.23225	101.3566	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22405	101.3558	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22405	101.3217	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22387	101.2278	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22404	101.1964	CHELSEA - HAWTHORNE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.20982	101.1443	BARTLESVILLE COMANCHE - BARTLESVILLE SOUTHEAST 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22404	101.1381	HAWTHORNE - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22807	101.1295	DMNCRKT4 - WHITE EAGLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	101.0898	GEN562429 1-G13-029 0.6900

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22404	101.0188	P12:138:AEPW:VINTAJC4:N.E.S.-4
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22744	100.9739	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22351	100.9594	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22253	100.9541	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22807	100.9413	DMNCRKT4 - MILLER 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22253	100.841	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22807	100.8253	MILLER - SOONER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	100.8058	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	100.8049	GEN533141 1-SLATEGEN1 0.6900
08ALL	16WP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.34133	100.7955	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.34133	100.7955	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.23088	100.7761	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.23088	100.7761	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22744	100.6856	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22413	100.5786	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22342	100.5312	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22206	100.5056	P12:138:OKGE:3TERM2
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2241	100.4919	4SFORKKTP 138.00 - SKIATOOK TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22201	100.4755	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	100.472	GEN562691 1-G15_015_3 0.6900
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22294	100.4507	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22744	100.4281	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2241	100.4202	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2241	100.4202	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2388	100.3895	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2388	100.3895	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22744	100.2924	MIDLTNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2388	100.2831	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2241	100.1889	COLLINSVILLE (COLAUTO3) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2241	100.1889	COLLINSVILLE (COLAUTO3) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22255	100.1703	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22737	100.1622	P12:138:OKGE:3TERM47

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22362	100.1618	40OLOGAH 138.00 - CLAREMORE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22362	100.1618	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22362	100.1618	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	100.1354	GEN514806 1-SOONER UNIT 2
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22301	100.0962	CLEVELAND - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	100	GEN563032 1-G15067_3 0.4180
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22362	100	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22362	100	P12:138:AECI-AEPW:CLARMR5:N.E.S.-4
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22404	100	SILVER CITY - STILLWATER 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22385	100	G15-015T 138.00 - MDFRDP4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22301	100	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22938	99.8	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.3405	99.8	FAIRFAX - PAWSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.3405	99.8	FAIRFAX - PAWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	99.7	GEN562611 1-G14_064_3 0.6900
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22609	99.7	FAIRFAX - NAVAL RESERVE 69KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22204	99.6	ALTOONA - BUTLER 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22204	99.6	P13:069-138:WERE:WERTL_TX-1::
08ALL	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.22076	99.6	P13:069-138:WERE:ALTO_TX-1OR3P::
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22715	99.52155	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22715	99.52155	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22315	99.5	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22314	99.5	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22313	99.5	CHELSEA - HAWTHORNE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.20896	99.5	BARTLESVILLE COMANCHE - BARTLESVILLE SOUTHEAST 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.40235	153.4813	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.40152	151.0439	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.3996	138.3739	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.40166	138.2983	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.23196	132.0164	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.23196	132.0164	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2308	129.7722	CLEVELAND - TULSA NORTH 345KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2308	129.7722	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.34113	129.4078	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.34113	129.4078	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22821	127.5564	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22821	127.5564	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.34044	127.0496	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.34044	127.0496	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.3996	122.7369	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.40243	122.6882	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22433	122.4363	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.33873	120.9102	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.33873	120.9102	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.40258	120.7423	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22338	120.4802	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.40159	119.7344	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22433	118.1702	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	117.3239	BASE CASE
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22338	116.2884	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22237	116.1971	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22237	116.1971	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22237	116.1967	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22237	116.1967	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.34056	115.6223	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.34056	115.6223	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2212	115.5229	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	115.396	BASE CASE
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	115.0857	GEN511839 1-NORTHEASTERN STATION #2
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22145	114.6378	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22145	114.6378	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22145	114.6373	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22145	114.6373	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22533	113.9108	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22605	113.5485	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.23096	113.4538	CLEVELAND - TULSA NORTH 345KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.23096	113.4538	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	113.447	GEN511839 1-NORTHEASTERN STATION #2
08NR	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22821	113.2378	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22821	113.2378	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22524	112.5955	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.23684	112.3569	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22613	112.1123	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22442	111.9683	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2212	111.7036	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22504	111.3886	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22535	111.3841	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22535	111.3807	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22533	110.9215	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21719	110.8296	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.23585	110.694	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22524	110.34	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22605	110.1254	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21719	110.0672	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.24085	109.9613	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22514	109.9607	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2231	109.9449	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2231	109.9449	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2231	109.9241	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2231	109.9241	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22535	109.8667	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21719	109.8634	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22429	109.8253	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.24085	109.573	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22445	109.2534	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22445	109.2514	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21632	109.2036	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22442	109.0222	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22514	108.9262	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22049	108.89	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.25317	108.7931	CLEAVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.25317	108.7931	CLEAVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22585	108.6813	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22049	108.5018	NOWATA - WATOVA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22744	108.466	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21632	108.4044	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	108.4006	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22591	108.3788	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22049	108.3576	P12:138:AEPW:NOWATA-4:N.E.S-4
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	108.3535	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.24035	108.3289	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22219	108.3029	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22219	108.3029	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22219	108.2848	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22219	108.2848	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22591	108.2563	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	108.2428	GEN512688 2-GRDA1 GSU2 22
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21632	108.1902	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22464	108.1866	P12:138:OKGE:3TERM2
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22591	108.1863	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	108.1624	GEN509394 1-FLINT CREEK
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22504	108.1441	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22585	108.141	EL PASO - FARBER 138KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22585	108.13	P13:069-138:WERE:ELPA_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.23584	108.1179	SOONER (SOONER5) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2246	108.095	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22533	108.0197	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.24035	107.9253	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	107.8341	GEN511836 1-NORTHEASTERN STATION #1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22445	107.7964	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2242	107.7808	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21007	107.7775	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.232	107.7715	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.232	107.7715	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	107.7378	GEN511840 1-NORTHEASTERN STATION #3
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22429	107.7255	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22495	107.6772	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22495	107.6772	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22522	107.6281	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22579	107.603	CLEVELAND - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	107.5327	GEN513601 1-GRECCTG_1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21007	107.5234	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21007	107.5122	P12:138:AEPW:BARNSAL4:T.NO.--4
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22657	107.4444	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22049	107.4003	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22472	107.3758	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22258	107.3391	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22881	107.313	FAIRFAX - NAVAL RESERVE 69KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.33873	107.2977	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.33873	107.2977	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22483	107.2474	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22579	107.2421	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2254	107.2372	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2254	107.2372	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21959	107.2326	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22695	107.2132	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22491	107.164	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	107.1095	P12:138:OKGE:3TERM2
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22486	107.0964	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22692	107.0618	4SFORKKTP 138.00 - SKIATOOK TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22374	107.0091	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	107.0017	GEN512688 2-GRDA1 GSU2 22
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22552	106.8839	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21959	106.8228	NOWATA - WATOVA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2242	106.7869	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	106.708	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.25158	106.6782	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.25158	106.6782	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21959	106.6696	P12:138:AEPW:NOVATA-4:N.E.S-4
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	106.6605	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22351	106.5601	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	106.5066	GEN509394 1-FLINT CREEK
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2246	106.3973	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22655	106.3383	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2092	106.2652	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22404	106.2115	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22404	106.2115	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22442	106.138	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	106.1358	GEN511836 1-NORTHEASTERN STATION #1
08NR	17G	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.40243	106.129	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	106.0442	GEN511840 1-NORTHEASTERN STATION #3
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2092	106.0134	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2092	106.002	P12:138:AEPW:BARNSAL4:T.NO--4
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22553	105.8876	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22484	105.8722	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	105.8194	GEN513601 1-GRECCTG_1 20.000
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22381	105.7566	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.21959	105.7043	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22428	105.6858	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.21965	105.5836	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.21965	105.5836	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.21965	105.5829	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.21965	105.5829	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22786	105.5817	FAIRFAX - NAVAL RESERVE 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22484	105.501	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.224	105.4766	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22599	105.4408	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22393	105.4297	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22597	105.2858	4SFORKKTP 138.00 - SKIATOOK TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22277	105.1226	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22277	105.0743	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.34119	105.0545	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.34119	105.0545	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22258	104.8562	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.24967	104.5103	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.24967	104.5103	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22261	104.4863	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22277	103.8664	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22342	103.6954	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22156	102.9821	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22156	102.9821	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22156	102.9818	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22156	102.9818	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2324	102.9255	SOONER (SOONER5) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22404	102.9189	ALLUWE TAP - CHELSEA 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22387	102.8993	BASE CASE
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.23405	102.8806	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22405	102.8338	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	102.8179	GEN587413 1-G16-061-GEN10.6900

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22405	102.7996	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22261	102.7186	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22387	102.6982	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22404	102.6739	CHELSEA - HAWTHORNE 138KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2212	102.6245	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.20982	102.6157	BARTLESVILLE COMANCHE - BARTLESVILLE SOUTHEAST 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22404	102.6156	HAWTHORNE - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22807	102.6128	DMNCRKT4 - WHITE EAGLE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22206	102.5974	BASE CASE
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	102.5664	GEN562429 1-G13-029 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22404	102.4964	P12:138:AEPW:VINTAJC4:N.E.S.-4
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22744	102.4479	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22351	102.4406	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.23225	102.4381	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.23225	102.4381	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22807	102.4248	DMNCRKT4 - MILLER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22258	102.3978	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22807	102.309	MILLER - SOONER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	102.2833	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	102.2806	GEN533141 1-SLATEGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22744	102.1596	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22218	102.1353	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22218	102.1353	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	101.9481	GEN562691 1-G15_015_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22744	101.9022	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.34133	101.8738	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.34133	101.8738	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.23088	101.8047	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.23088	101.8047	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22381	101.8029	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22744	101.7666	MIDLTNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22737	101.6546	P12:138:OKGE:3TERM47
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22362	101.6407	40OLOGAH 138.00 - CLAREMORE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22362	101.6407	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22362	101.6407	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	101.6154	GEN514806 1-SOONER UNIT 2
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2252	101.5707	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2252	101.5707	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	101.4624	GEN563032 1-G15067_3 0.4180
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22362	101.4621	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22362	101.434	P12:138:AECI-AEPW:CLARMR5:N.E.S.-4
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22253	101.3624	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22938	101.2822	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22253	101.249	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22314	101.2022	CLAREMORE TRANSOK - VERDIGRIS 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	101.1366	GEN562611 1-G14_064_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.20896	101.0805	BARTLESVILLE COMANCHE - BARTLESVILLE SOUTHEAST 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22314	101.0677	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22315	101.0399	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22715	101.0136	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22715	101.0136	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22313	100.9971	CHELSEA - HAWTHORNE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22413	100.989	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22342	100.9428	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22313	100.9393	HAWTHORNE - NORTHEAST STATION 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22206	100.9253	P12:138:OKGE:3TERM2
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2241	100.9018	4SFORKKTP 138.00 - SKIATOOK TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22201	100.8952	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	100.8771	GEN562429 1-G13-029 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22294	100.8648	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.23064	100.8407	OSAGE - SOONER PUMP TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2241	100.8302	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2241	100.8302	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22313	100.8177	P12:138:AEPW:VINTAJC4:N.E.S.-4

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2388	100.7991	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2388	100.7991	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.3405	100.7912	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.3405	100.7912	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	100.7579	GEN533141 1-SLATEGEN1 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22655	100.7354	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2299	100.7171	P12:138:OKGE:3TERM7
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.23064	100.7142	SOONER - SOONER PUMP TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2388	100.6928	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22713	100.6921	DMNCRKT4 - WHITE EAGLE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	100.6317	GEN562882 1-G15047_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2241	100.6001	COLLINSVILLE (COLAUTO3) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2241	100.6001	COLLINSVILLE (COLAUTO3) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22255	100.5801	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22713	100.513	DMNCRKT4 - MILLER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22301	100.5045	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22385	100.4457	G15-015T 138.00 - MDRDTP4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22605	100.4451	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22404	100.4414	SILVER CITY - STILLWATER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22301	100.4088	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22713	100.3957	MILLER - SOONER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22655	100.3716	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	100.3164	GEN587483 1-G16-071-GEN10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	100.2767	GEN562691 1-G15_015_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22655	100.1138	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22609	100.0816	FAIRFAX - NAVAL RESERVE 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22204	100	ALTOONA - BUTLER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22204	100	P13:069-138:WERE:BTUL_TX-1::
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22076	100	P13:069-138:WERE:ALTO_TX-1OR3P::
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22609	99.9	NAVAL RESERVE - PAWYA 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22852	99.9	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22655	99.9	MIDLTNT4 138.00 - PECKHAM TAP 138KV CKT 1

Table 9: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	99.9	GEN514806 1-SOONER UNIT 2
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22272	99.9	40OLOGAH 138.00 - CLAREMORE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22272	99.9	40OLOGAH 138.00 - CLAREMORE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22272	99.9	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22272	99.9	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.2212	99.9	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	99.8	GEN563032 1-G15067_3 0.4180
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22272	99.8	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22272	99.8	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22272	99.7	P12:138:AECI-AEPW:CLARMR5:N.E.S.-4
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22511	99.6	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22452	99.6	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2244	99.6	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	99.5	GEN562611 1-G14_064_3 0.6900

Table 10: Voltage Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Max MW Available	Contingency
				Currently, None						

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0331	122.8379	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0334	122.1457	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0335	121.0858	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0321	117.8868	GRDA1 - GREC TAP5 345.00 345KV CKT 1
0	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0331	117.0882	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0317	116.7203	GRDA1 - GREC TAP5 345.00 345KV CKT 1
0	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0334	115.688	P12:138:AEPW:N.E.S.-4:CATOOSA4
0	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0335	113.635	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0322	110.7965	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0334	109.2876	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	20WP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	158	158	0.0333	103.835	P12:138:AEPW:N.E.S.-4:CATOOSA4
0	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0321	102.8095	GRDA1 - GREC TAP5 345.00 345KV CKT 1
0	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0317	102.6531	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	158	158	0.034	101.3873	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	17SP	ASGI_17_05	FROM->TO	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1	212	212	0.4448	99.2	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1648	122.3435	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1648	122.3435	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	118.1054	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1453	117.7467	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1625	117.0374	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.167	115.9952	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.167	115.9952	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1629	115.417	GEN511839 1-NORTHEASTERN STATION #2
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1447	115.2371	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1453	115.1397	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1453	114.82	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1637	114.2857	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.16	113.3745	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.16	113.3745	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1625	113.3294	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.16	113.2793	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.16	113.2793	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1653	113.2106	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1662	112.9437	GRDA1 - GREC TAP5 345.00 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1662	112.8549	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1662	112.8549	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1447	112.5188	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1637	112.5174	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1447	112.1838	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1626	112.1385	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1626	112.0566	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1642	111.7136	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1533	111.2149	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1593	110.6835	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1593	110.6835	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1593	110.5994	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1593	110.5994	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1626	110.3926	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1533	109.8962	NOWATA - WATOVA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1617	109.7795	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1645	109.6836	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1533	109.6315	P12:138:AEPW:NOWATA-4:N.E.S-4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1625	109.5311	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1661	109.3594	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1661	109.3594	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1655	109.3582	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1637	109.3361	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1811	109.1755	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1811	109.1755	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1623	108.9481	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1636	108.7101	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1527	108.6371	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1584	108.4814	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1584	108.4814	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.165	108.4313	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1584	108.4008	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1584	108.4008	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1705	107.7977	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1617	107.7865	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1637	107.7863	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1691	107.658	SOONER (SOONER5) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1593	107.3616	P13:069-138:WERE:ALTO_TX-1OR3P::
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1609	107.3509	OWASSO NORTH TAP - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1623	107.2979	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1619	107.2709	ALTOONA - BUTLER 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1619	107.2689	P13:069-138:WERE:BUTL_TX-1::
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1527	107.2532	NOWATA - WATOVA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1642	107.1736	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1653	107.1662	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1527	106.9726	P12:138:AEPW:NOWATA-4:N.E.S-4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1609	106.8495	P12:138:AEPW:OWAS1094:T.NO.-4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1609	106.7338	OWASSO 109TH STREET - OWASSO NORTH TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1623	106.717	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1637	106.7006	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1628	106.6749	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1623	106.6058	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1632	106.5732	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1641	106.5491	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1641	106.5453	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1638	106.4845	4SFORKKTP 138.00 - SKIATOOK TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1638	106.3923	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1638	106.3923	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1629	106.1767	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1624	106.1553	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1533	106.1162	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.161	106.1019	NORTHEAST STATION - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.161	106.1019	NORTHEAST STATION - TULSA NORTH 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1638	106.0997	COLLINSVILLE (COLAUTO3) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1638	106.0997	COLLINSVILLE (COLAUTO3) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1592	106.078	ALTOONA - TAYLOR 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1629	106.0532	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1609	106.0415	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1609	106.0415	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1592	105.8821	MONTGOMERY - TAYLOR 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1592	105.8609	P12:138:WERE:ALTO-MONT_138::
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1592	105.6758	P13:069-138:WERE:MONT_TX-1::
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1737	105.6739	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1737	105.6739	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1619	105.5779	GEN562694 1-G15_016_3 0.6900
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1737	105.5689	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1722	105.506	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1654	105.4052	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1654	105.4052	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1639	105.3772	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1634	105.3694	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1619	105.2629	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	104.7911	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	104.6972	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1641	104.4869	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1636	104.2022	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1645	103.9608	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1446	103.8884	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1639	103.8841	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	103.661	GEN511836 1-NORTHEASTERN STATION #1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1527	103.4274	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	103.2919	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	103.2918	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1639	103.2714	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1639	103.1625	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1634	103.1245	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1749	102.9483	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1715	102.8185	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1642	102.6697	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1639	102.6679	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1749	102.5578	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1627	102.4848	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.16	102.2919	COFFEYVILLE FARMLAND - SOUTH COFFEYVILLE CITY 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1645	102.1824	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1603	102.1778	NEOSHOS4 138.00 - TWIN VALLEY NO. 1 MOUND VALLEY 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1662	102.161	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1629	102.1012	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1628	102.0496	GEN511839 1-NORTHEASTERN STATION #2
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1629	102.0065	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1657	101.9499	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1603	101.8019	LIBERTY - TWIN VALLEY NO. 1 MOUND VALLEY 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1636	101.7699	ALTOONA - BUTLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1636	101.7605	P13:069-138:WERE:BTUL_TX-1::
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1603	101.751	P12:138:WERE:LIBE-NSES_138::
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	101.7061	GEN509394 1-FLINT CREEK
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1632	101.6991	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1833	101.6491	CLEAVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1833	101.6491	CLEAVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	101.6341	NEOSHO (N345 TX-2) 345/161/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1646	101.6071	CLEAVELAND - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1645	101.5859	P13:069-138:WERE:ELPA_TX-1::
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1645	101.5606	EL PASO - FARBER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1627	101.4402	NEOSHON4 138.00 - NORTHEAST PARSONS 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1653	101.3223	OPENSKY7 345.00 - RANCHRD7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	101.3078	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1634	101.2869	NEOSHO (NEOSHO1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1644	101.2342	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1602	101.2262	P13:069-138:WERE:LIBE_TX-1::
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.16	101.2105	COFFEYVILLE TAP - SOUTH COFFEYVILLE CITY 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1446	101.176	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.164	101.1618	CHEROKEE DATA CENTER EAST TAP - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.164	101.1618	CHEROKEE DATA CENTER EAST TAP - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.16	101.1598	P12:138:GRDA-AEPW:FARML4:COFFEYT4
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	101.1182	GEN547649 1-ASBURY UNIT #1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1644	101.1145	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1646	101.1065	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1655	101.0818	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1713	101.0611	SOONER (SOONER5) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1637	101.0578	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1644	101.0474	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	101.0261	GEN542955 1-LACYGNE UNIT #1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1629	100.9611	GEN511836 1-NORTHEASTERN STATION #1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1635	100.9322	GEN562694 1-G15_016_3 0.6900
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1446	100.848	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1581	100.7808	BARTLESVILLE COMANCHE - BLUESTEM 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1632	100.7203	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1611	100.7094	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1606	100.6336	4OOLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1606	100.6336	4OOLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1606	100.6336	P12:138:AEI-AEPW:CLARMR5:N.E.S.-4
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1632	100.5389	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1627	100.3309	G15066_T 345.00 - SOONER 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1745	100.2922	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1619	100.1593	GEN562882 1-G15047_3 0.6900
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1619	100.1403	GEN514806 1-SOONER UNIT 2
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1585	100	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1619	99.9	GEN563032 1-G15067_3 0.4180
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1745	99.9	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1596	99.9	NEOSHOS4 138.00 - TWIN VALLEY NO. 1 MOUND VALLEY 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.166	99.8	P12:138:WERE:CRSW-OGE_138::
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1636	99.7	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1619	99.6	GEN562611 1-G14_064_3 0.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1637	99.6	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1632	99.6	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1596	99.6	LIBERTY - TWIN VALLEY NO. 1 MOUND VALLEY 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1671	99.5	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1671	99.5	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1671	99.5	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1671	99.5	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1619	99.5	GEN587483 1-G16-071-GEN10.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1632	99.5	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1596	99.5	P12:138:WERE:LIBE-NSES_138::
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1642	99.4	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1642	99.3	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1521	99.3	P13:069-138:WERE:DEAR_TX-1::
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1521	99.2	COFFEYVILLE TAP - DEARING 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1521	99.2	COFFEYVILLE TAP - DEARING 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1642	99.1	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.1642	99.1	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1629	99.1	GEN509394 1-FLINT CREEK
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1593	99.1	COFFEYVILLE FARMLAND - SOUTH COFFEYVILLE CITY 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1596	99	P13:069-138:WERE:LIBE_TX-1::
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.2077	99	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.2077	99	P12:138:AEPW:BARNSAL4:T.NO.--4

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.0397	110.8284	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.0397	110.7866	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.0397	106.0818	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.0446	100	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.0446	99.9	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.0449	99.2	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.0449	99.2	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.0415	103.9877	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.0381	103.4341	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.0304	103.2007	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.0381	100.1624	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.0388	99.7	GRACEMONT - MINCO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.0304	99.6	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0605	145.6265	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0605	145.6265	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0631	124.4616	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0631	124.4616	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0626	121.1778	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0626	121.1778	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0621	119.0158	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0621	119.0158	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	213	213	0.0622	102.754	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	213	213	0.0622	102.754	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0624	102.7348	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0624	102.7348	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	213	213	0.0629	100.6796	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	213	213	0.0629	100.6796	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1472	107.1848	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1288	105.8136	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1372	105.5627	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1372	105.446	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1307	104.7511	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1312	103.8594	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1312	103.8222	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1288	102.6234	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.0309	102.5048	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.0309	102.5048	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.0309	102.4989	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.0309	102.4989	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1312	102.0419	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1307	101.7344	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.126	100.6706	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.126	100.6706	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1472	100.6155	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1288	99.4	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.1247	99	BASE CASE
08ALL	20L	ASGI_17_05	TO->FROM	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1	143	143	0.0495	123.5378	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1	143	143	0.0495	123.5378	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.2226	99.3	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.2497	99	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	DOMES - MOUND ROAD 138KV CKT 1	189	189	0.2497	99	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.2228	99.3	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2251	99.2	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2532	99.1	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2532	99.1	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2205	99.1	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.2234	99.1	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.3412	99	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	189	189	0.3412	99	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2259	99	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2245	99	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	DOMES - PAWHUSKA TAP 138KV CKT 1	152	152	0.2245	99	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.053	130.019	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0546	123.1015	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0544	119.6784	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0544	119.665	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0506	117.5071	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0544	115.0436	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0558	113.5497	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0558	113.5481	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0526	112.481	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0522	110.9076	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0512	110.2728	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0507	109.6241	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0558	108.9882	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0586	108.7897	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0586	108.7784	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.043	107.591	P13:115-345:WERE:LANG_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.043	107.5909	LANG (LANG TX-1) 345/115/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.043	107.5893	EMPORIA ENERGY CENTER - LANG 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0489	106.9626	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0525	106.9	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0525	106.8807	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0436	106.7745	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0462	106.691	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.058	106.3896	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0536	106.3644	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	105.9985	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0464	105.8131	MORRIS COUNTY - SWISSVALE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.045	105.736	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0459	105.6128	LACYGNE - STILWELL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0423	104.8801	MORRIS COUNTY (MORR TX-1) 345/230/14.4KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0586	104.5103	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	104.5031	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	104.4018	GEN542962 2-IATAN UNIT #2
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0523	104.3773	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	103.8246	GEN542956 2-LACYGNE UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0548	103.7623	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0548	103.7582	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	103.675	GEN542951 5-HAWTHORN UNIT #5
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0421	103.6399	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.045	103.5677	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	103.4197	GEN542957 1-IATAN UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0459	103.0776	AXTELL - G16-050-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	103.0015	GEN300003 1-THOMAS HILL UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0537	102.8183	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0537	102.8163	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0502	102.7721	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0502	102.7626	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0442	102.6959	LANG (LANG TX-1) 345/115/14.4KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0442	102.6959	P13:115-345:WERE:LANG_TX-1::
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0442	102.6943	EMPORIA ENERGY CENTER - LANG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	102.6039	P12:115:WERE:LANG-TECH_115P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	102.5267	P12:115:WERE:FOUR-LANG_115F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0421	102.5071	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0459	102.4471	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	102.4258	LANG - READING LAKE 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0414	102.4009	87th STREET - STRANGER CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0525	102.3942	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	102.1368	OSAGE CITY JUNCTION SWITCHING STATION - READING LAKE 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	101.9732	GEN640009 1-COOPER NUCLEAR STATION
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	101.9192	GEN645012 2-NEBRASKA CITY 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0469	101.8346	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0469	101.8346	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	101.7404	GEN645011 1-NEBRASKA CITY 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0409	101.6363	BENTON - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	101.5887	OSAGE CITY JUNCTION SWITCHING STATION - SCRNTJS3 115.00 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	101.5876	SCRANTON - SCRNTJS3 115.00 115KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0448	101.5538	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0408	101.5511	HUNTERS7 345.00 - WOODRING 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0475	101.4965	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	101.4902	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	101.4802	DBL-THIS-G15
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	101.4734	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.045	101.3204	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	101.2786	FOUR CORNERS - SCRNTJN3 115.00 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	101.2785	SCRANTON - SCRNTJN3 115.00 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	101.0488	DBL-SPRVL-IR
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0416	101.0119	87th STREET - CRAIG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0435	100.9692	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	100.9335	P12:115:WERE:FOUR-TECH_115F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	100.8784	CARB-KW 3 - FOUR CORNERS 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.8769	P12:138:WERE:BENT-NORT_138P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.7031	GEN546702 1-NM GEN N1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.6917	GEN344225 1-1CAL G1 25.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	100.6751	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0419	100.6658	SUMMIT - UNIONRG6 230.00 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	100.6525	CARB-KW 3 - SHAWNEE HEIGHTS 115KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0438	100.6336	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0444	100.5678	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.5568	GEN300007 1-NEW MADRID UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.5454	GEN300006 1-NEW MADRID UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.518	P12:069:WERE:64TH-NORT_69F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.5158	P12:115:WERE:EMAN-KSU_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.4983	P12:069:WERE:COWS-HOOVS_69F::
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0462	100.4649	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.4434	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.381	GEN300002 1-THOMAS HILL UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0502	100.3739	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	100.357	P12:115:WERE:AUBN-SMAN_115F1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	100.357	P12:115:WERE:AUBN-SMAN_115F2::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	100.357	P12:115:WERE:AUBN-SMAN_115F3::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0435	100.3424	G15063_T 345.00 - WOODRING 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.3267	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0447	100.3189	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0477	100.3106	MORRIS COUNTY - SWISSVALE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.3092	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.3092	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0432	100.2761	GRAND ISLAND - SWEETWATER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0472	100.2561	LACYGNE - STILWELL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0435	100.2501	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	100.2479	SMAN_W_3 115.00 - SOUTH MANHATTAN 115KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	100.2283	P12:138:WERE:GECT-HOOV_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.2239	P12:115:WERE:PHLP-SALM_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.2234	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0447	100.1933	MINGO - RED WILLOW 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0447	100.1933	MINGO - RED WILLOW 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.1902	GEN659111 2-LELAND OLDS UNIT2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.1884	P13:115-230:WERE:MCDO_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0435	100.1806	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.1689	GEN541162 1-ARIES STEAM TURBINE
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	100.1681	SOUTH ALMA - SOUTH MANHATTAN 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.168	MCDOWELL CREEK - MORRIS COUNTY 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.1636	MCDOWELL CREEK (MCDO TX-1) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.044	100.1457	SHAWNEE HEIGHTS - TECUMSEH HILL 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.1421	P12:138:WERE:HOOV-MURR_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0434	100.1396	AXTELL - PAULINE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0429	100.1354	P13:069-138:WERE:ALTO_TX-10R3P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.0744	GEN542954 3-MONTROSE UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100.0708	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0437	100.0663	P12:161:WERE:MARM-KCPL_161::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0437	100.0661	CENTERVILLE - G15-016T 161.00 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	100.0544	G15088_T 345.00 - MOORE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	100	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100	GEN542953 2-MONTROSE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100	GEN562694 1-G15_016_3 0.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100	GEN590011 2-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100	P12:069:WERE:MACA-PLAZ_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100	P12:115:WERE:3VAN-HEC_115P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100	P12:115:WERE:EEUR-WEMP_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	100	P12:138:WERE:HARR-WEAV_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	100	P12:115:WERE:LANG-WEMP_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0422	100	OVEXFRMCCOVE
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0419	100	P12:115:WERE:MOUN-WEMP_115P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0406	100	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0434	100	MORRIS COUNTY (MORR TX-1) 345/230/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0435	99.9	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.9	GEN590010 1-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.9	P12:069:WERE:MOUN-NEWT_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0438	99.8	MINGO - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0438	99.8	MINGO - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	99.8	G15088_T 345.00 - PAULINE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.8	DBL-HTCH-OTA
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.8	CONCORDIA - ELM CREEK 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.8	CONCORDIA - ELM CREEK 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.8	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.8	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.8	GEN300001 1-THOMAS HILL UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.8	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.8	GEN542967 9-HAWTHORN UNIT #9
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.8	GEN636641 1-LOUISA UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.8	P12:069:WERE:HOOVN-RIPL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.8	P12:138:WERE:COWS-WACO_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.74834	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.74834	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0441	99.7	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0441	99.7	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0437	99.7	CENTERVILLE - PAOLA 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0434	99.7	HOLCOMB - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0434	99.7	HOLCOMB - SETAB 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	99.7	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0432	99.7	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0431	99.7	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.7	GEN541165 1-SHARPR#1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.7	GEN541166 2-SHARPR#2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.7	GEN542961 6-HAWTHORN COMBUSTION TURBINE #6
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.7	GEN543108 3-BULL CREEK COMBUSTION TURBINE #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.7	GEN543109 4-BULL CREEK COMBUSTION TURBINE #4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.7	GEN546698 1-QN GEN2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.7	GEN600002 3-SHERBURNE CNTY G3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.7	GEN635214 4-NEAL UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.7	P13:069-138:WERE:COWS_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	99.61289	KEENE - SOUTH ALMA 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0444	99.6	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0431	99.6	CLIFTON - CONCORDIA 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0431	99.6	CLIFTON - CONCORDIA 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.043	99.6	AUBURN ROAD - SWISSVALE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	ALTOONA - BUTLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	P13:069-138:WERE:BUTL_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	GEN300011 1-ST FRANCIS UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	GEN505432 1-SIKESTON
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	GEN543106 1-BULL CREEK COMBUSTION TURBINE #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	GEN543107 2-BULL CREEK COMBUSTION TURBINE #2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	GEN645025 5-NORTH OMAHA 5
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	P12:069:WERE:COWS-SUNS_69F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	P12:069:WERE:MEAD-PLAZ_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.6	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.6	P13:069-138:WERE:HOOV_TX-3::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0417	99.6	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0411	99.6	7MCCREDIE 345.00 - 7OVERTON 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.041	99.6	DBL-THIS-WWR
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0408	99.6	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0437	99.5	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0437	99.5	BROOKLINE - FLINT CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0437	99.5	BROOKLINE - FLINT CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0431	99.5	CLIFTON - GREENLEAF 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0431	99.5	P12:115:WERE:KNOB-MKEC_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0431	99.5	P12:115:WERE-MKEC:CLIFTON-KNOBHILL::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.043	99.5	5JASPER 161.00 - LAMAR 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.043	99.5	7JASPER 345.00 345/161KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0429	99.5	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0429	99.5	GRAND ISLAND - MCCOOL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.5	HAWTHORN - NASHUA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.5	IATAN - NASHUA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0427	99.5	P12:069:WERE:ALLE-TIOG_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	4SIOUX 1 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	ABILENE ENERGY CENTER 115/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN300010 1-ST FRANCIS UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN300012 1-HOLDEN UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN300013 1-HOLDEN UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN300015 1-1SGPDEL 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN344894 1-1LAB G1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN344895 2-1LAB G2 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN344896 3-1LAB G3 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN344897 4-1LAB G4 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN549893 2-SOUTHWEST 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN600000 1-SHERBURNECNTY G1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN645041 1-CASS COUNTY 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN645042 2-CASS COUNTY 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	GEN659110 1-LELAND OLDS UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.5	P12:115:WERE:ANZI-FITU_115::

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.5	P12:138:WERE:NORT-WEAV_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.5	P12:138:WERE:17TH-CANA_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.5	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.5	P12:138:OKGE:3TERM2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0419	99.5	P12:115:WERE:SPCKJ-WEMP_115F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.44393	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.44393	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0447	99.4	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0447	99.4	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	99.4	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	99.4	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0433	99.4	AUBURN ROAD - OLDAUBU3 115.00 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0432	99.4	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0432	99.4	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0431	99.4	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0431	99.4	GREENLEAF - KNOB HILL 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.043	99.4	7SPORTSMAN - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0429	99.4	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0429	99.4	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	P12:115:WERE:MCDO-WILD_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN532661 1-LAWRENCE ENERGY CENTER UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN532671 1-TECUMSEH ENERGY CENTER UNIT 7
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN541154 3-RALPH GREEN GENERATING UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN541170 4-LAKERD#4 13.800
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN542964 8-HAWTHORN COMBUSTION TURBINE #8
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN543078 1-PAOLA COMBUSTION TURBINES
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN600001 2-SHERBURNE CNTY G2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN600003 1-PRAIRIE ISLAND G1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN600004 2-PRAIRIE ISLAND G2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN600005 1-MONTICELLO
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN600006 1-AS KING
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	GEN635213 3-NEAL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	P12:069:WERE:MIDI-MOBI_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	P12:069:WERE:MIDI-SKEL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	P12:115:WIDW::RICE-WHEATLANDS

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.4	P12:115:WERE:WMCP-MWE_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.4	EAST STREET - LANG 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.4	P12:138:WERE:COWS-GECT_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.4	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.4	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.4	MAIZE - MAIZEE 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.4	MAIZE - MAIZEW 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.4	P12:138:WERE:CHIS-MAIZ_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.4	P12:138:WERE:GORD-MAIZ_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.4	HOYT - NORTHLAND 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.4	P12:115:WERE:INDA-HOYT_115::
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0438	99.4	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0434	99.3	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0434	99.3	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0431	99.3	8BHAM STEEL 500.00 - WEST MEMPHIS 500 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.043	99.3	ELMCREEK7 345.00 - SUMMIT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.043	99.3	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.043	99.3	CLARK - LAMAR 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0428	99.3	DBL-BVR-G111
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0427	99.3	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0427	99.3	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	GEN300016 1-1G1GPDEL 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	GEN345670 1-1RUSH G1 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	GEN345671 2-1RUSH G2 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	GEN509394 1-FLINT CREEK
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	GEN542963 7-HAWTHORN COMBUSTION TURBINE #7
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	GEN547649 1-ASBURY UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	GEN549890 1-SOUTHWEST 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	GEN659353 1-DEERCREK CTG18.000

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	GEN659354 1-DEERCREK STG18.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	P12:069:WERE:17TH-RIPL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	P12:069:WERE:ALLE-ATHE_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	P12:069:WERE:CANA-MIDL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	P12:069:WERE:GLEN-OAKL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	P12:069:WERE:MURR-MIDL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	P12:115:WERE:SMOK-SUMM_115P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.3	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.3	30TH & PRAIRIE - LANG 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0425	99.3	P12:115:WERE:COLI-HOYT_115::
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0438	99.3	GEN542962 2-IATAN UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0548	99.3	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.2	P12:115:WERE:JARB-PENT_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.2	P12:115:WERE:3VAN-HEC_115F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	99.1	P12:069:WERE:ARNO-KERE-WALN_69::
08ALL	20L	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0552	99	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1509	168.178	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1509	168.178	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1511	167.9986	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1511	167.9986	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1509	159.6611	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1509	159.6611	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0673	156.6481	2CLEVLNDFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0673	156.5466	4CLEVLNDFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0675	153.7974	2CLEVLNDFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0675	153.7944	4CLEVLNDFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1557	152.745	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1557	152.745	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1562	150.7038	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1562	150.7038	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1511	148.7103	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1511	148.7103	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0673	147.4672	2CLEVLNDFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0673	147.3582	4CLEVLNDFMR138.00 - CLEVELAND 138KV CKT Z1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0888	146.5441	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0888	146.2944	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0888	145.95	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1504	145.7514	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1504	145.7514	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1557	145.6292	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1557	145.6292	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0892	145.4631	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0892	145.2254	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0892	144.8969	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0888	144.5508	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0888	143.5661	DOMES - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0892	143.4681	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0892	142.496	DOMES - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0706	142.4598	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.1509	142.3982	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.1509	142.3982	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.1511	141.7649	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.1511	141.7649	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0709	140.8365	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0706	138.8116	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0672	138.0488	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0709	137.3219	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0669	136.6228	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0669	136.6113	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0888	136.1368	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0675	135.9945	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0888	135.8963	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0799	135.6788	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0888	135.5229	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0721	135.142	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0799	135.0534	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0674	134.6946	CLEVELAND - HALLETT TAP 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0407	134.6348	HALLETT TAP - PAWNEE 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0671	134.551	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0671	134.4982	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.08	134.0687	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0888	133.9854	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0721	133.8676	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0724	133.504	CLEVELAND - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.08	133.4612	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0888	133.045	DOMES - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0677	132.6694	CLEVELAND - HALLETT TAP 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0724	132.287	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0707	132.1957	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0701	132.0681	4CLEVLNDXFMR138.00 138/69KV TRANSFORMER CKT 2
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0765	131.7968	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0765	131.7968	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0409	131.0589	HALLETT TAP - PAWNEE 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0768	130.2496	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0768	130.2496	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0703	130.1511	4CLEVLNDXFMR138.00 138/69KV TRANSFORMER CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1562	129.9512	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1562	129.9512	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0673	129.6633	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0707	128.4049	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0669	128.2668	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0669	128.2546	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0799	127.1379	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0799	127.1379	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0799	126.4417	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0675	126.1943	CLEVELAND - HALLETT TAP 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0721	126.1334	CLEVELAND - JAVINE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0408	126.0827	HALLETT TAP - PAWNEE 69KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0721	124.8878	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0701	123.6659	4CLEVLNDXFMR138.00 138/69KV TRANSFORMER CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0892	123.1244	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0892	122.9634	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0676	122.7711	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0892	122.7053	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0673	122.4105	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0673	122.4013	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0676	122.0884	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.1557	121.9212	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.1557	121.9212	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0892	121.5429	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0676	121.4713	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0892	120.9295	DOMES - MOUND ROAD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0676	120.8441	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0709	120.4335	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0688	120.2619	RAMONA - WALMART2 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1552	120.136	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.1552	120.136	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.069	118.9984	RAMONA - WALMART2 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0881	118.8288	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0881	118.7601	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0994	118.7441	P12:138:AEPW-OGE:SHIDLER4:OSAGE 4
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0994	118.6816	FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0994	118.6735	FAIRFAX TAP - SHIDLER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0688	118.5882	RAMONA - SOUTH FORK 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0498	118.587	2PRSHNGTP 69.000 - TALLANT 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0881	118.5103	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	118.4532	BURBANK - FAIRFAX 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0723	117.694	P12:138:OKGE:3TERM47
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0881	117.5533	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0722	117.4575	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0722	117.4575	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0881	117.2869	DOMES - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0711	117.2173	BURBANK - FAIRFAX 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.069	117.1719	RAMONA - SOUTH FORK 69KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0888	117.0899	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0888	116.9081	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0699	116.8232	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0888	116.781	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0892	116.6474	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0996	116.4813	P12:138:AEPW-OGE:SHIDLER4:OSAGE 4
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0892	116.4529	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0996	116.4179	FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0996	116.4099	FAIRFAX TAP - SHIDLER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0892	116.3472	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05	115.9915	2PRSHNGTP 69.000 - TALLANT 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0888	115.9409	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0707	115.8128	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0892	115.5382	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0709	115.4385	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0888	115.2257	DOMES - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0994	115.0515	OSAGE - WEBB CITY TAP 138KV CKT 1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0673	114.8803	2CLEVLNDFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0892	114.8241	DOMES - MOUND ROAD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.071	114.7614	CLEVELAND - G15066_T 345.00 345KV CKT 1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0673	114.6119	4CLEVLNDFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0996	113.0338	OSAGE - WEBB CITY TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0688	111.9029	RAMONA - WALMART2 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0699	111.5923	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0707	111.5099	G15066_T 345.00 - SOONER 345KV CKT 1
0	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0675	110.8279	4CLEVLNDFMR138.00 - CLEVELAND 138KV CKT Z1
0	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0675	110.8176	2CLEVLNDFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0932	110.5413	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0932	110.5413	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.071	110.378	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0688	109.7749	RAMONA - SOUTH FORK 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0688	109.7749	RAMONA - SOUTH FORK 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0499	109.4886	2PRSHNGTP 69.000 - TALLANT 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0994	109.4678	OSAGE - WEBB CITY TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	109.2206	GEN588303 1-ASGI1705-GEN0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	109.2	BURBANK - FAIRFAX 69KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	109.0915	4REMNGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0724	108.9767	CLEVELAND - JAVINE 138KV CKT 1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0407	108.702	HALLETT TAP - PAWNEE 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0919	108.5945	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0919	108.5945	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0498	108.5244	2PRSHNGTP 69.000 - PAWYA 69KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0724	108.2529	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0675	108.2235	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	108.1154	GEN301382 1-10SAGEWINDG10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	107.9791	4OSAGEWIND 138.00 - 4REMNGTON 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.08	107.7528	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0673	107.7048	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0711	107.5319	GEN588303 1-ASGI1705-GEN0.6900
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0768	107.5274	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0768	107.5274	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0711	107.4028	4REMNGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.08	107.3988	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
0	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0673	107.0554	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
0	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0673	107.0512	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0799	106.8623	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0799	106.8623	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0685	106.7688	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0685	106.7688	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0685	106.7687	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0676	106.693	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05	106.6922	2PRSHNGTP 69.000 - PAWYA 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0669	106.5663	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0672	106.5658	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0672	106.5632	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0669	106.5595	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0407	106.4807	2GETTYTAP 69.000 - PAWNEE 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0711	106.418	GEN301382 1-10SAGEWINDG10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0721	106.4037	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0799	106.3631	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0667	106.346	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0711	106.2805	4OSAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0667	106.0948	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.08	105.9574	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.08	105.9574	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0933	105.8122	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0933	105.8122	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0672	105.576	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0672	105.563	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.08	105.5002	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0721	105.4979	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0724	105.4253	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0675	105.2593	CLEVELAND - HALLETT TAP 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0926	104.6997	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0926	104.6997	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0765	104.6295	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0765	104.6295	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0499	104.5983	2PRSHNGTP 69.000 - PAWYA 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0682	104.5647	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0682	104.5647	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0682	104.5627	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0682	104.5627	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0724	104.5273	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0677	104.2243	CLEVELAND - HALLETT TAP 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0769	104.0742	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0769	104.0742	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
0	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0409	103.9663	HALLETT TAP - PAWNEE 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0685	103.8933	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0685	103.8933	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0685	103.889	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0685	103.889	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0409	103.7793	2GETTYTAP 69.000 - PAWNEE 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0498	103.6976	NAVAL RESERVE - PAWYA 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05	102.0261	NAVAL RESERVE - PAWYA 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	101.2373	GEN588303 1-ASGI1705-GEN0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	101.0624	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	101.0624	ASGI1705 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0714	100.8273	CLEAVELAND - JAVINE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0714	100.582	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0498	100.5406	SOUTH FORK - TALLANT 69KV CKT 1
0	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0408	100.4441	HALLETT TAP - PAWNEE 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0759	100.3947	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0759	100.3947	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0407	100.2474	2GETTYTAP 69.000 - FAIRFAX 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	100.1528	GEN301382 1-1OSAGEWINDG10.6900
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0672	100.0604	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	100	4OSAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	100	4OSAGEWIND 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0499	99.9	NAVAL RESERVE - PAWYA 69KV CKT 1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0669	99.5	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0669	99.5	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0759	99.3	P12:138:AEPW:BV-COM-4:BV-SE--4
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.0711	99	BASE CASE
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0379	148.7292	G15052_T 345.00 - ROSE HILL 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0375	147.8165	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0379	147.6761	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0375	146.0701	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0381	142.1749	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0334	138.8565	SUMNER 4 - TIMBJCT4 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0336	138.7548	SUMNER 4 - TIMBJCT4 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0382	138.3462	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0379	137.9492	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0375	137.1734	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0364	136.8122	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0364	136.482	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0364	136.3595	P12:069:WERE:BELL-CRSW_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0374	136.1486	TIMBER JUNCTION - UDALL 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0374	135.9186	P12:069:WERE:TIMJ-WEAV_69::
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0362	135.3562	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	135.1835	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0374	135.1582	RICHLAND - UDALL 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0362	135.058	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0362	134.935	P12:069:WERE:BELL-CRSW_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0402	134.9192	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0371	134.3156	TIMBER JUNCTION - UDALL 69KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0371	134.0686	P12:069:WERE:TIMJ-WEAV_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0336	134.0304	TIMBJCT4 (TIMJ TX-1) 138/69/13.2KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0374	133.8534	RICHLAND - ROSE HILL JUNCTION 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0362	133.5704	CITY OF WELLINGTON - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0364	133.5623	CITY OF WELLINGTON - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0338	133.0958	SUMNER 4 - TIMBJCT4 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0371	133.0608	RICHLAND - UDALL 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.04	132.8113	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0381	132.3547	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0374	132.277	ROSE HILL JUNCTION - WEAVER 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0371	131.7082	RICHLAND - ROSE HILL JUNCTION 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0364	131.0856	BELL - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	130.6251	DBL-G1524-WI
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0336	130.4091	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0362	130.0361	BELL - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0452	129.9319	SOONER (SOONER5) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0371	129.8913	ROSE HILL JUNCTION - WEAVER 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0329	129.8036	P12:138:OKGE:3TERM2
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0329	129.7333	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0364	129.7001	BELL - PECK 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0364	129.5746	P12:069:WERE:BELL-MURR_69::

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0376	129.2557	TIMBER JUNCTION - UDALL 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	129.0946	DBL-G1524-WI
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0346	129.0067	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0346	129.0067	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0449	128.9087	SOONER (SOONERS) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0376	128.8983	P12:069:WERE:TIMJ-WEAV_69::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0367	128.712	CITY OF WELLINGTON - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.033	128.6145	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0336	128.4957	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0362	128.4831	BELL - PECK 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0338	128.3733	TIMBJCT4 (TIMJ TX-1) 138/69/13.2KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0362	128.3544	P12:069:WERE:BELL-MURR_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0504	128.3374	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	128.193	P12:138:OKGE:3TERM2
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0364	128.1377	GILL ENERGY CENTER WEST - PECK 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0326	128.1107	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	127.9306	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0431	127.8898	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0431	127.836	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0344	127.8273	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0344	127.8273	CLEVELAND - TULSA NORTH 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0431	127.6258	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0431	127.5658	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0375	127.5145	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0431	127.4655	DOMES - MOUND ROAD 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0326	127.4044	EL PASO - ROSE HILL 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0379	127.3898	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.033	127.327	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0376	127.2961	RICHLAND - UDALL 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	127.2952	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	126.7551	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0362	126.7517	GILL ENERGY CENTER WEST - PECK 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0501	126.5803	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0428	126.5703	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0428	126.5309	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0323	126.4552	EL PASO - ROSE HILL 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	126.4034	GEN542962 2-IATAN UNIT #2
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	126.4009	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0367	126.3731	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	126.3555	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0428	126.2557	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0367	126.2372	P12:069:WERE:BELL-CRSW_69::

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0325	126.1821	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	126.163	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0428	126.1342	DOMES - MOUND ROAD 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0428	126.1336	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0325	126.1266	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0441	126.1118	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0441	126.1118	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0293	126.0885	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	126.0721	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	126.0687	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	126.0685	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	126.0673	GEN562902 1-G15052_3 0.6900
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	126.0377	GEN542956 2-LACYGNE UNIT #2
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	126.0274	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	125.9843	GEN542957 1-IATAN UNIT #1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0367	125.9467	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0325	125.9329	KINZE - MCELROY 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	125.9301	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0326	125.9193	P12:138:OKGE:3TERM47
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	125.9146	P12:138:WFEC:MSL15
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0339	125.8881	DELAWARE - NORTHEAST STATION 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0339	125.8881	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	125.8344	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	125.7912	P12:069:WERE:ARKA-OAK_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	125.745	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	125.7302	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	125.7287	GEN532720 1-CANEYWF1 0.6900
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	125.7007	GEN640009 1-COOPER NUCLEAR STATION
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	125.7	SOONER - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	125.6162	GEN542951 5-HAWTHORN UNIT #5
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0405	125.419	G15-015T 138.00 - MDRDTP4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0376	125.3067	RICHLAND - ROSE HILL JUNCTION 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0329	124.8145	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0322	124.5409	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0367	124.5191	BELL - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0438	124.5176	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0438	124.5176	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0322	124.4918	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.033	124.4502	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.033	124.434	P12:138:WFEC:MSL15
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0336	124.4186	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0336	124.4186	DELAWARE - NORTHEAST STATION 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0322	124.31	KINZE - MCELROY 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0323	124.294	P12:138:OKGE:3TERM47
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.033	124.2635	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	124.2477	P12:069:WERE:ARKA-CRSW_69::
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	124.1641	P12:069:WERE:ARKA-OAK_69::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	124.0277	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0295	123.0244	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0376	122.7259	ROSE HILL JUNCTION - WEAVER 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0367	122.3596	BELL - PECK 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	122.2208	P12:138:OKGE:3TERM2
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0367	122.1805	P12:069:WERE:BELL-MURR_69::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	122.1269	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0381	122.0615	OPENSKY7 345.00 - RANCHRD7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	121.9654	DBL-THIS-G15
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0338	121.8615	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0381	121.8561	DMNCRKT4 - WHITE EAGLE 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0381	121.6893	DMNCRKT4 - MILLER 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	121.6484	GEN562992 1-G15063_3 0.6900
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0381	121.5715	MILLER - SOONER 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	121.5317	GEN336821 1-GRAND GULF UNIT
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	121.4893	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0387	121.4601	OSAGE - SOONER PUMP TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	121.4531	GEN562882 1-G15047_3 0.6900
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0387	121.3847	SOONER - SOONER PUMP TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0325	121.2779	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0325	121.2779	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	121.2351	DBL-G1524-WI
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	121.1917	GEN562429 1-G13-029 0.6900
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	121.1367	SUMNER 4 - VIOLA 4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0345	121.1084	WEAVER (WEAV-TX-2) 138/69/13.2KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	121.0919	GEN514806 1-SOONER UNIT 2
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0348	121.0889	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0348	121.0889	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0329	121.036	BOEING - STEARMAN 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0336	120.9062	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.039	120.8801	CHIKASKIA - KILDARE4 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	120.8334	GEN588303 1-ASGI1705-GEN0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	120.8239	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	120.6985	GEN301382 1-10SAGEWINDG10.6900
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	120.6063	DBL-THIS-G15
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	120.5495	GEN515483 1-BLKWLWD1 0.6900
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	120.4966	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	120.4966	ASGI1705 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	120.357	BOEING - CANAL 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	120.3456	4OSAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	120.3446	4OSAGEWIND 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	120.3243	GEN563032 1-G15067_3 0.4180
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0506	120.2808	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0433	120.1796	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0433	120.1201	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	120.1029	EL PASO - ROSE HILL 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	120.0787	GEN562611 1-G14_064_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0338	120.0272	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0323	119.8731	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	119.87	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0367	119.854	GILL ENERGY CENTER WEST - PECK 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0433	119.7782	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	119.6736	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0433	119.6144	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0433	119.5979	DOMES - MOUND ROAD 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0323	119.5857	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0379	119.5619	DMNCRKT4 - WHITE EAGLE 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	119.4542	BOEING - STEARMAN 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	119.4482	GEN532722 1-EVANS ENERGY CENTER UNIT 2
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0388	119.4167	CHIKASKIA - KILDARE4 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0379	119.4056	DMNCRKT4 - MILLER 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0379	119.2932	MILLER - SOONER 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0402	119.2899	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0402	119.2829	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0385	119.2566	OSAGE - SOONER PUMP TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0385	119.1848	SOONER - SOONER PUMP TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0454	119.1407	SOONER (SOONERS) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	119.0742	59TH ST - GILL ENERGY CENTER SOUTH 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0329	119.0684	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0329	118.9191	4OSAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.8595	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.8489	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.8485	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.7834	P12:069:WERE:ARKA-CRSW_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	118.769	59TH ST - EL PASO 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	118.7282	P12:138:WERE:ELPA-MURR_138::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.033	118.6845	BENTON - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.653	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0334	118.6416	MORISNT4 138.00 - SOONER 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.5787	GEN542962 2-IATAN UNIT #2
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	118.3222	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.2849	GEN542956 2-LACYGNE UNIT #2
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0335	118.2675	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	118.2451	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0321	118.1844	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.034	118.1778	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.1772	P12:069:WERE:ARKA-OAK_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0342	118.166	P13:069-138:WERE:WEAV_TX-2::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.1626	GEN542957 1-IATAN UNIT #1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	118.1448	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.1305	GEN562902 1-G15052_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	118.1124	45TH ST4 138.00 - EVANS ENERGY CENTER SOUTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0334	118.0974	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0334	118.0882	P12:138:WFEC:MSL15
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0341	118.0848	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0341	118.0848	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0335	118.0703	BUTLER COUNTY NO. 10 BENTON - WEAVER 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	118.0654	45TH ST4 138.00 - COWSKIN 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0335	118.0273	P12:069:WERE:MOBI-WEAV_69::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	118.0246	GEN635024 4-WALTER SCOTT UNIT 4

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	118.0231	P12:138:WERE:COWS-GECT_138::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0443	118.0213	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0443	118.0213	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	117.9568	KINZE - MCELROY 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	117.9486	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0334	117.9088	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	117.902	P12:138:OKGE:3TERM47
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0335	117.8832	BUTLER COUNTY NO. 10 BENTON - MOBIL 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	117.8232	GEN532720 1-CANEYW1 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	117.8002	ROSE HILL (ROSE TX-5) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0324	117.3982	59TH ST - GILL ENERGY CENTER SOUTH 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.04	117.2745	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.04	117.2672	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0324	117.0484	59TH ST - EL PASO 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0324	117.008	P12:138:WERE:ELPA-MURR_138::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0323	116.3052	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	115.8411	GEN562691 1-G15_015_3 0.6900
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0293	115.762	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	115.622	GEN514805 1-SOONER UNIT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0339	115.5153	P13:069-138:WERE:WEAV_TX-2::
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0321	114.9599	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	114.1279	BOEING - CANAL 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.032	114.0491	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.9865	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.9426	GEN335831 1-RIVERBEND UNIT#1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.8911	GEN587463 1-G16-068-GEN10.6900
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	113.8345	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.8273	GEN562992 1-G15063_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.7544	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.7083	GEN336153 1-WATERFORD UNIT#3
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.6442	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0332	113.5876	EL PASO - SIXTY-FOURTH (64TH) 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0325	113.4961	SUMNER 4 - VIOLA 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.4141	GEN562429 1-G13-029 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.377	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0329	113.3484	59TH ST - GILL ENERGY CENTER SOUTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.3208	GEN336821 1-GRAND GULF UNIT
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0331	113.174	BOEING - STEARMAN 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0318	113.1307	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0392	113.1182	CHIKASKIA - KILDARE4 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	113.0884	DBL-THIS-G15
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	112.9996	GEN588303 1-ASGI1705-GEN0.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	112.9568	GEN514806 1-SOONER UNIT 2
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	112.8649	GEN301382 1-10SAGEWINDG10.6900
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0329	112.837	59TH ST - EL PASO 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0383	112.809	DMNCRKT4 - WHITE EAGLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0329	112.7949	P12:138:WERE:ELPA-MURR_138::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	112.7138	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	112.6994	GEN515483 1-BLKWLWD1 0.6900
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0291	112.6023	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	112.5634	4OSAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0383	112.5568	DMNCRKT4 - MILLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	112.5204	GEN563032 1-G15067_3 0.4180
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0325	112.4522	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0389	112.4334	OSAGE - SOONER PUMP TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0383	112.4037	MILLER - SOONER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0389	112.3239	SOONER - SOONER PUMP TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	112.2781	GEN562611 1-G14_064_3 0.6900
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0321	111.7818	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.032	111.7682	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.032	111.7527	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0326	111.1152	SUMNER 4 - VIOLA 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0347	110.5196	WEAVER (WEAV TX-2) 138/69/13.2KV TRANSFORMER CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0318	110.3677	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0318	110.3578	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0405	109.8405	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0405	109.8332	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	109.7699	SOONER (SOONERS) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0325	109.2683	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0318	109.0747	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0318	109.0589	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0318	108.8965	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0318	108.8571	DOMES - MOUND ROAD 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0318	108.8294	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0322	108.6876	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0369	108.6829	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0375	108.2159	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	108.0915	GEN562691 1-G15_015_3 0.6900
08ALL	25SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0324	107.8684	SUMNER 4 - VIOLA 4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0379	107.5735	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0344	106.9724	P13:069-138:WERE:WEAV_TX-2::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	106.9705	GEN514805 1-SOONER UNIT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0322	106.6041	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0322	106.6021	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0325	106.1176	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0315	105.3427	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0365	105.313	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0315	105.3087	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0315	105.0451	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0315	104.921	DOMES - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0315	104.908	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	20WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0364	103.7909	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	103.5219	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0323	103.5033	SOONER (SOONER5) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	103.4841	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	103.3245	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	103.2702	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	20WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	103.2059	DOMES - MOUND ROAD 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0291	102.5596	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0291	102.5524	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0363	101.2022	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0313	101.0118	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0313	100.9691	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0313	100.6905	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0381	100.6158	RANCHRD7 345.00 - SOONER 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0313	100.5586	DOMES - MOUND ROAD 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0313	100.5397	P12:138:AEPW:MOUNDRD4:SHIDLER4
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0362	99.4	P12:069:WERE:BELL-MURR_69::
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0344	99.4	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0344	99.4	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0333	99.4	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0293	99.2	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0328	99	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0716	149.8379	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0728	144.6	SOONER - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0728	144.5056	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0716	142.6235	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0763	140.1426	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0763	140.0046	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0798	139.3181	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0724	139.0988	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0817	136.6876	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0761	136.0678	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0761	135.8078	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.071	134.1923	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.071	133.9897	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	133.9257	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.048	133.5983	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0724	132.0008	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	131.132	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0799	129.4829	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	129.1733	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	129.1537	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.048	128.7721	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0706	128.5175	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0698	126.7966	CLEVELAND - TULSA NORTH 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0698	126.7966	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0483	126.5008	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	126.4136	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0692	125.7557	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0692	125.7557	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	124.6432	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0486	124.5784	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0424	124.5232	DBL-THIS-WWR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	124.1712	DBL-THIS-G15
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0722	124.0069	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0722	124.0069	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0432	123.168	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	123.155	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0692	122.3136	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0692	122.3136	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0395	122.0101	DBL-TGA-MATT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0667	121.8903	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0483	121.6569	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	121.5176	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	121.496	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0706	121.4835	SOONER - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	121.0325	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	120.9913	P12:138:OKGE:3TERM2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	120.6129	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0703	120.5625	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	120.3175	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0339	120.2246	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0384	120.178	DBL-TGA-MATT
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0486	120.0733	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0562	120.0202	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	119.9235	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	119.8451	P12:138:OKGE:3TERM2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0557	119.535	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0338	119.0096	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	119.0058	P12:138:WFEC:MSL15
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0686	118.931	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0686	118.931	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	118.7346	DBL-THIS-G15
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	118.6435	P12:138:OKGE:3TERM1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0462	118.6063	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	118.5211	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	118.5055	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	118.4602	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	118.4024	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	118.258	DOVER SW - HENESSEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	118.0852	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0432	117.9779	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0569	117.8515	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0569	117.84	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	117.7158	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0562	117.6717	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	117.6599	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0296	117.6548	G16-061-TAP 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	117.525	GEN501801 1-DOLET HILLS UNIT1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	117.5194	P12:138:WFEC:MSL15
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0474	117.5041	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	117.4804	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	117.4558	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0474	117.4481	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	117.4061	P12:138:OKGE:3TERM2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	117.3378	GEN336821 1-GRAND GULF UNIT
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	117.3158	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	117.3132	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	117.3129	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	117.3101	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0572	117.2971	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0572	117.2432	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0474	117.242	KINZE - MCELROY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	117.1977	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	117.1671	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	117.1442	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	117.1256	P12:138:OKGE:3TERM2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	117.1212	GEN336153 1-WATERFORD UNIT#3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	117.0716	MARSHALL - WOODRING 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	117.0683	GEN515040 1-SEMINOLE 1G
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	117.0482	P12:138:OKGE:3TERM1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0691	117.0282	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0691	117.0282	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	116.9964	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	116.9955	P12:138:OKGE:3TERM47
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	116.9846	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0587	116.9597	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0432	116.9529	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	116.9205	P12:138:WERE:CRSW-OGE_138::
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.904	GEN509416 1-TURK GENERATION
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.8904	GEN335831 1-RIVERBEND UNIT#1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.031	116.8544	G16-061-TAP 345.00 - SOONER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	116.8507	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	116.8267	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	116.8258	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	116.7968	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0663	116.7841	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.7578	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	116.7351	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	116.6893	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	116.6758	KETCH TAP - MITCHSB4 138.00 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	116.6747	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.6741	GEN525561 1-TOLK GEN #1 24 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.6703	GEN525562 1-TOLK GEN #2 24 KV
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	116.6673	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	116.6589	GEN515040 1-SEMINOLE 1G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.6538	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0569	116.6288	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.6034	GEN509403 1-PIRKEY GENERATION
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	116.5507	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	116.5217	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.4906	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.4651	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.463	GEN501813 1-RODEMACHER UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	116.4477	DOVER SW - HENESSEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	116.4358	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	116.4219	DBL-THIS-WWR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	116.4164	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	116.4164	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0448	116.4037	DBL-THIS-WWR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.3906	GEN509404 1-WELSH #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.3892	GEN509406 1-WELSH #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	116.3881	P12:138:WFEC:MSL14
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	116.375	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0478	116.3705	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.3515	GEN515042 1-SEMINOLE 3G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	116.3508	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.3353	GEN335206 1-NELSON UNIT 6
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	116.3202	P12:138:OKGE:3TERM11
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.3104	GEN520947 1-HUGO1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	116.3018	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	116.3018	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0669	116.2971	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.2874	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0669	116.2805	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	116.2701	GEN515042 1-SEMINOLE 3G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	116.269	BEARCAT 138.00 - NINE MILE 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0669	116.2566	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.2548	GEN515041 1-SEMINOLE 2G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	116.2542	LACYGNE - STILWELL 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0559	116.2308	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	116.2264	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	116.2251	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	116.2251	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0669	116.2171	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	116.2171	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.1941	GEN501812 1-RODEMACHER UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.1911	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0572	116.1866	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	116.1823	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0669	116.1773	DOMES - MOUND ROAD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	116.1765	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0489	116.1652	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0489	116.1652	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0489	116.1652	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0489	116.1652	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	116.1541	GEN515041 1-SEMINOLE 2G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	116.1497	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	116.1392	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	116.1354	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	116.1351	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	116.1351	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	116.0956	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.0946	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0772	116.0928	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	116.0914	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	116.0441	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	116.0396	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	116.0396	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.0364	GEN514910 2-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	116.0246	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	116.0246	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.016	GEN587387 1-G16-057-GEN20.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.0159	GEN587383 1-G16-045-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.0132	GEN587303 1-G16-045-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.0132	GEN587307 1-G16-045-GEN20.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	116.009	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	116.0067	NEW MADRID 161/22.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	116.0057	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	116.0007	DEWEY - SOUTHARD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.997	NEW MADRID 345/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	115.9956	COW CREEK - MORRISON 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.9834	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.9834	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	115.9786	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.9745	GEN514911 2-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.9745	GEN514942 2-REDBUD4G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.9709	GEN334440 1-SABINE UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	115.9537	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	115.9416	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	115.9406	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	115.9172	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	115.9172	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.9137	GEN514940 1-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0485	115.9122	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0482	115.9095	KINZE - STILLWATER KINZIE 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0482	115.9095	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	115.9094	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	115.9094	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	115.9082	DBL-SPRVL-IR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.9072	GEN514900 1-REDBUD2S
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.907	GEN514899 1-REDBUD1S
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	115.9046	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	115.9044	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	115.9044	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	115.9	P12:138:AEPW:OKMULGE4:R.S.S-4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.8867	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.8769	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.8769	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.8708	GEN527901 1-HOBBS PLANT #1 (CT)
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.8708	GEN527902 1-HOBBS PLANT #2 (CT)
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.8705	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.8552	GEN514905 1-REDBUD3S
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	115.855	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	115.8547	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	115.8546	3TR3AR8EL7EL
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	115.8487	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.8349	GEN509409 1-WILKES #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.8345	DELL 500 - ESSEX UNIT 2 500KV CKT Z1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	115.8323	DBL-THIS-G15
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.829	P12:069:OKGE:3TERM4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.8145	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.8079	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.8079	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0485	115.8012	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.8011	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.8011	GEN523972 1-HARRINGTON GEN #2 24 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.8011	GEN523973 1-HARRINGTON GEN #3 24 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	115.7932	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	115.7829	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	115.7829	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.7806	GEN336831 1-BAXTER WILSON SES
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	115.7778	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	115.7769	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.7709	GEN335204 1-NELSON UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.7644	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.7644	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.7515	GEN526331 1-JONES GEN #1 22 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.7314	GEN334441 1-SABINE UNIT 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.728	GEN511851 1-COMANCHE #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	115.7257	PECULIAR - STILWELL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	115.7239	VIOLA 7 345.00 (VIOLA 1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.7229	GEN334071 1-LEWIS CREEK 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.7207	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.7171	GEN334070 1-LEWIS CREEK 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	115.7129	P13:069-138:WERE:ELPA_TX-1::
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	115.7062	EL PASO - FARBER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	115.7059	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	115.7059	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6923	GEN562587 1-G14_056_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6668	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0562	115.6663	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6651	GEN587233 1-G16-037-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6626	GEN501811 1-RODEMACHER UNIT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6421	GEN521110 1-ORME1 13.800
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6421	GEN521111 1-ORME2 13.800
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	115.6408	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	115.6406	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6368	GEN334433 1-SABINE UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6349	GEN303007 1-1BC2 U2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6338	GEN337041 1-GERALD ANDRUS
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6331	GEN303006 1-1BC2 U1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6276	GEN334031 1-FRONTIER UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6242	GEN334030 1-FRONTIER UNIT 1

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Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6228	GEN515602 1-KNGFSR12 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6218	CRESENT - TWIN LAKES 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6197	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6116	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	115.608	P12:138:WFEC:MSL15
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.6076	FRONTIER - GRIMES 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0549	115.5994	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5994	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	115.5966	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5877	GEN303008 1-1BC2 U3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	115.5835	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5794	GEN520811 1-ANADRK4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5733	GEN336464 1-MICHOUD UNIT #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5708	GEN336170 1-GULF OXY U4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5705	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5702	P12:069:OKGE:3TERM3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5683	GEN515226 1-MUSKOGEE 6G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	115.568	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0364	115.5678	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	115.566	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5641	GEN527163 1-MUSTANG GEN #3 22 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	115.558	WEBRE - WELLS 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5482	GEN515443 1-MNCOWND1 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5446	COTTONWOOD CREEK - CRESENT 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0463	115.5441	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0463	115.5425	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.5416	P12:138:WFEC:MSL10
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5387	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5362	GEN521112 1-ORME3 13.800
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	115.5351	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	115.5338	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	115.5306	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.5261	PHAROAH - WETUMKA4 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0676	115.5252	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0676	115.5252	FAIRFAX - PAWNWS4 138.00 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5251	GEN527161 1-MUSTANG GEN #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5251	GEN527162 1-MUSTANG GEN #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	115.5199	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5191	P12:138:WFEC:MSL13
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.519	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	115.5183	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	115.518	CLEAVELAND - SILVER CITY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	115.518	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5106	GEN515225 1-MUSKOGEE 5G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5104	GEN515223 1-MUSKOGEE 4G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	115.5103	MUSKOGEE - SEMINOLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5087	GEN511853 1-COMANCHE #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.5077	GEN501910 1-ACADIA UNIT ST1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.5044	PARAGON4 138.00 - WETUMKA4 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.5042	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.5042	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.5024	PARAGON4 138.00 - TRNCNDACV4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4939	GEN511852 1-COMANCHE #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	115.4925	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	115.4925	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4899	GEN520812 1-ANADRK5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4898	GEN520813 1-ANADRK6
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.048	115.4854	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4782	GEN562590 1-G14_057_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4768	GEN526332 1-JONES GEN #2 21 KV
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0594	115.4757	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	115.4756	OKEENE - WATONGA SW 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.471	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4686	RODEMACHER 230/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	115.4667	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4651	GEN515606 1-CANDN11 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4651	GEN515607 1-CANDN12 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	115.4613	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	115.4531	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	115.4531	NORTHEAST STATION - ONETA 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.4497	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	115.4321	CUSHING - GRNWOOD4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	115.4277	BOWMAN - KNGINDT2 69.000 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	115.427	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	115.4244	KETCH - KETCH TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4215	P12:138:WFEC:MSL09
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4195	P12:161:AEPW:EROGERS5:ECNTRTN5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4192	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4186	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4174	GEN336222 1-LITTLE GYPSY UNIT#2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	115.4165	AXTELL - G16-050-TAP 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	115.415	P12:138:WERE:CRSW-SUMN_138::
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.4142	GEN337766 1-TRACTEBEL UNIT S1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	115.4134	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	115.4094	KNGINDT2 69.000 - OKRCHET2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	115.4093	P12:161:AEPW:DYESS5:ELMSPRNG:TONTITN5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.409	GEN501970 1-EVANGELINE UNIT 7
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	115.4076	CRESWELL - OXFORD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.4029	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	115.4007	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.4005	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	115.3983	OXFORD - SUMNER 4 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3965	GEN336152 1-WATERFORD UNIT#2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3957	GEN336151 1-WATERFORD UNIT#1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.395	GEN563062 1-G15071_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.3946	CROMWELL - TRNCNDACV4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	115.3928	P12:138:GRDA:STILLWATER-VALLEY
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3918	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.3918	P12:161:AEPW-SWPA:BEAVERS:EROGERS5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	115.3878	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	115.3864	4WOODY 138.00 - BRISTOW 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3856	GEN509393 S1-ARSENAL HILL GENS #4 (STALL)
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.385	GEN506754 1-LEBROCK STEAM 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	115.3846	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	115.3846	SAPULPA ROAD - WEKIWA 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	115.3844	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3813	GEN334392 1-EXXON MOBIL IPP 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3809	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3809	ST FRANCIS 161/16.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3789	GEN334393 1-EXXON MOBIL IPP 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3789	GEN334394 1-EXXON MOBIL IPP 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3752	GEN503909 1-FULTONU1 1 16.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.3741	CROMWELL - WEWOKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	115.3734	FULTON 115 - HOPE 115KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	115.3734	FULTON 115 - HOPE 115KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3725	P13:069-138:WERE:BTUL_TX-1::
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3715	ALTOONA - BUTLER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3685	GEN501972 1-EVANGELINE UNIT 7-2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3684	GEN501971 1-EVANGELINE UNIT 7-1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3671	DOVER - DOVER SW 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	115.3661	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	115.3661	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	115.3656	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	115.3656	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	115.3636	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3615	GEN336242 1-1NMIL ST1 18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	115.3605	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	115.3602	WOODWARD - WWPAR4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	115.36	RAMSEY - VALLEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3593	GEN527882 1-CUNNINGHAM GEN #2 20 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3581	GEN334432 1-SABINE UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.358	GEN334431 1-SABINE UNIT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3578	GEN501912 1-ACADIA UNIT CT1B
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	115.3575	VALLEY 138/69KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3573	GEN501911 1-ACADIA UNIT CT1A
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0558	115.3547	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0558	115.3547	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3543	GEN514912 2-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	115.3538	EL RENO - OKRCHET2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3521	GEN337764 1-TRACTEBEL UNIT C1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3521	GEN337765 1-TRACTEBEL UNIT C2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.351	NEOSHO - SUB 452 - RIVERTON 161KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3507	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	115.3492	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	115.3492	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	115.3492	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	115.3492	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	115.3439	4WOODY 138.00 - PHAROAH 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	115.3439	4WOODY 138.00 - PHAROAH 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	115.3405	6LAYFLD 230.00 - CARROLL 230KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3403	ST FRANCIS 2 161/16.0KV TRANSFORMER CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3403	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	115.3391	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.338	DOVER - TWIN LAKES 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3351	GEN563272 1-G15093_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.3321	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.3321	CRAIG - WEST GARDNER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3316	GEN523461 1-BLACKHAWK GEN #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3316	GEN523462 1-BLACKHAWK GEN #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3302	GEN560105 1-G08-22 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	115.3267	CYPRESS - HARTBURG 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3256	GEN337430 1-PERYVILLE UNIT #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.325	GEN337428 1-PERYVILLE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	115.3246	MC NIEL 500/115KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.3234	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.3234	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	115.3201	ALVA - ALVA 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3166	GEN562602 1-G15_029_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	115.3129	GEN562550 1-G14_040_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	115.2897	FAIRMONT TAP - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	115.2074	LIBERTY LAKE - WATERLOO 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	115.1978	GEN514939 1-HORSESHOE LAKE 8G
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	115.1809	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	115.1147	P12:138:OKGE:3TERM1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	115.1	GEN335831 1-RIVERBEND UNIT#1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0384	115.0967	DBL-G1151-TG
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	115.0277	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	115.0277	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0548	115.0175	DBL-THIS-G15
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0566	114.9909	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0569	114.9879	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	114.9843	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	114.9482	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	114.9167	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0566	114.8773	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0395	114.8324	DBL-G1151-TG
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	114.7964	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0566	114.7429	DOVER SW - HENESSEY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0559	114.7067	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.7	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6754	GEN300011 1-ST FRANCIS UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6622	GEN541170 4-LAKERD#4 13.800
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6606	GEN300031 1-CHOUTEAU CTG 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6605	GEN300024 1-1CHOTST6 16.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	114.6573	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6567	7CALAWY 1 345.00 345/25.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	114.6567	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6547	GEN600011 5-BLACK DOG GEN 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6535	GEN645024 4-NORTH OMAHA 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6531	GEN672305 5-BOUNDARY DAM GENERATOR 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.653	GEN672303 3-BOUNDARY DAM GENERATOR 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.653	GEN672304 4-BOUNDARY DAM GENERATOR 4

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6507	GEN600014 4-BLACK DOG GEN 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6497	P12:230:UMZB:# 112 #: NU IN SD. NU-RCDC & DRY CREEK XFMR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6497	RCDC EAST 4230.00 - RED CEDAR DC 230KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.6491	MCCLAIN - STHLAKE4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6467	GEN615032 2-PLEASANT VALLEY
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6379	GEN652460 4-GARRISON
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6378	GEN629071 1-BURLINGTON GENERATOR FOR UNIT NO 1 E
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6371	GEN652461 5-GARRISON
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6365	FAIRVIEW - OKEENE 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6357	GEN652457 1-GARRISON
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6357	GEN652458 2-GARRISON
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6357	GEN652459 3-GARRISON
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	114.6342	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6334	BURLINGTON NO1 + NO 2 + NO 3 161/20.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.632	SARA - STHLAKE4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.6291	GEN501813 1-RODEMACHER UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.629	GEN652559 1-OAHE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6277	GEN652556 2-OAHE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6258	GEN600017 C-LS POWER CT
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6239	GEN505432 1-SIKESTON
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6238	GEN652557 5-OAHE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	114.6208	CHISNEY - CLARKSVILLE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	114.618	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6175	GEN629070 2-BEAVER CHANNEL GENERATORFOR UNIT NO 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	114.617	P12:138:WFEC:MSL14
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	114.6137	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.613	GEN509416 1-TURK GENERATION
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.6114	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0463	114.6114	CWBOYHT4 138.00 - FNTANTP4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0587	114.6071	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.602	GEN659353 1-DEERCREK CTG18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0463	114.6012	CWBOYHT4 138.00 - MARLAND TAP 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	114.6	4LUTHERD 138.00 - LUTHER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	114.5994	8BHAM STEEL 500.00 - WEST MEMPHIS 500 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5976	GEN672392 1-NBECGT1G 18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	114.5968	CHISHOLM7 345.00 (CHISHOLM) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5946	QUAIL CREEK - SKYLINE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5878	GEN590010 1-ERCOT EQUIVALENCE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5865	GEN531447 1-HOLCOMB GENERATOR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	114.5812	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	114.5775	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	114.5726	MARSHALL - WOODRING 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.571	GEN615021 1-GRE-ER 14G 16.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5694	GEN590011 2-ERCOT EQUIVALENCE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5691	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	114.5676	P12:138:WFEC:MSL03
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	114.5671	CHISNEY - HIGHLAND 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	114.5664	TUPELO - TUPELO TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	114.5628	P12:138:WERE:CRSW-OGE_138::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.5624	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5593	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5554	GEN530594 1-SMKYP1G1 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	114.552	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5515	MORGAN - MUSTANG 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5467	GEN529252 1-OMPA-KAW
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	114.5435	P12:138:AECI:STROUD-LUTHER
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0463	114.5394	MARLAND TAP - OSAGE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	114.5391	FINNEY SWITCHING STATION - Hitchland Interchange 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5382	GEN549893 2-SOUTHWEST 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	114.5358	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5316	MORGAN - XEROX 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5286	CZECH HALL - XEROX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	114.5256	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5254	THOMAS HILL 161/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	114.5246	G13-010T 345.00 - POST ROCK 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5218	GEN542954 3-MONTROSE UNIT #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	114.5197	OVEXFRMCCOVE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.5187	CIMARRON - SARA 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	114.5183	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.511	GEN334440 1-SABINE UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5094	GEN345671 2-1RUSH G2 18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.508	GEN345670 1-1RUSH G1 18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.5018	GEN645025 5-NORTH OMAHA 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	114.4943	HIGHLAND - PINK SW 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	114.4908	DELAWARE - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	114.4908	DELAWARE - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.4867	GEN300001 1-THOMAS HILL UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.4863	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.4801	GEN629072 4-LANSING GENERATOR FOR UNITS NO4 EIA CODE 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.4742	GEN335206 1-NELSON UNIT 6
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.4725	CIMARRON - CZECH HALL 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.4588	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	114.457	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	114.4538	STATELINE INTERCHANGE - STLN-DEMAR6 230KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	114.4537	P12:230:AEPW-SPS:SWEETWT6:WHEELER 6
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	114.4534	STLN-DEMAR6 - SWEETWATER 230KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	114.4442	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.4426	GEN659110 1-LELAND OLDS UNIT1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.4365	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.4292	GEN520947 1-HUGO1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.4275	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	114.4125	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	114.4039	NOEL_SW 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	114.4029	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	114.4029	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.4025	CLAY BOSWELL 230/20.9KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.4003	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3999	GEN681522 3-GENOA 3

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	114.3991	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3944	GEN657749 1-YOUNG 1 GENERATOR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3934	GEN641089 2-ENERGY CENTER 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	114.3895	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	114.3895	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0549	114.3876	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3805	G1524G1525 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3805	G1524G1525 345.00 - WICHITA 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.375	GEN514998 1-MCCLAIN UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.3749	GEN514999 1-MCCLAIN UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.3745	GEN514936 1-HORSESHOE LAKE 7S
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3714	GEN562892 1-G15048_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3707	GEN344895 2-1LAB G2 20.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	114.3704	4MEMORAL 138.00 - LUTHER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.37	GEN547649 1-ASBURY UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	114.3695	DBL-HTCH-OTA
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	114.3693	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3664	4SIOUX 1 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.3569	P12:069:OKGE:3TERM4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	114.3564	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.3526	GEN501812 1-RODEMACHER UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	114.3524	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3506	GEN344896 3-1LAB G3 20.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3495	GEN344894 1-1LAB G1 20.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3487	GEN344897 4-1LAB G4 20.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3358	GEN512689 1-GRDA1 GSU1 22
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0549	114.33	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	114.3261	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0433	114.3256	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0433	114.3256	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0433	114.3256	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0433	114.3256	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.317	GEN336831 1-BAXTER WILSON SES
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3154	GEN530690 1-PRWINDG1 0.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	114.3049	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0549	114.301	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.3	GEN509394 1-FLINT CREEK
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2986	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2986	ASGI1705 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.2971	GEN334441 1-SABINE UNIT 5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.2895	DELL 500 - ESSEX UNIT 2 500KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	114.2869	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.283	GEN300006 1-NEW MADRID UNIT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2734	GEN300007 1-NEW MADRID UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2731	4OSAGEWIND 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	114.2715	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	114.2715	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0549	114.2705	MIDLTNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2699	4OSAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2686	GEN511840 1-NORTHEASTERN STATION #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.2677	P12:138:AEPW:CORNVIL4:DUNCAN-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	114.265	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	114.2638	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	114.2622	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	114.2612	P12:138:AECI:LUTHER-JONES
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.252	GEN672321 1-SHAND GENERATOR 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	114.2501	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	114.2501	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2496	GEN300002 1-THOMAS HILL UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	114.2455	P12:138:WFEC:MSL15
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.2382	GEN335204 1-NELSON UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2346	GEN672310 1-POPLAR RIVER GENERATOR 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2346	GEN672311 2-POPLAR RIVER GENERATOR 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.2301	GEN515000 1-MCCLAIN UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2271	GEN672306 6-BOUNDARY DAM GENERATOR 6

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0663	114.2228	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	114.2226	FRANKLIN - PINK SW 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	114.2154	G15095_T 138.00 - ROSE VALLEY 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.2153	ALMA 161 161/24.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0663	114.2073	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	114.1985	HUGO - VALLIANT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	114.1985	HUGO - VALLIANT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.192	GEN560248 1-G10_003_2 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.1906	GEN532957 1-WAVERGEN1 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.1859	GEN681542 6-JP MADGETT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.1827	GEN509403 1-PIRKEY GENERATION
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.1751	GEN546702 1-NM GEN N1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.1701	GEN512688 2-GRDA1 GSU2 22
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0776	114.1697	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	114.1655	COW CREEK - MORRISON 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	114.1611	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	114.1611	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.1522	GEN511839 1-NORTHEASTERN STATION #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	114.1508	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	114.1508	LACYGNE - STILWELL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.1498	GEN334433 1-SABINE UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.1471	GEN337041 1-GERALD ANDRUS
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	114.1463	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	114.1463	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	114.1387	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.1347	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.1304	GEN509406 1-WELSH #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.1301	GEN509404 1-WELSH #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	114.1211	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0663	114.1159	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	114.112	P12:138:WERE:MURR-MKEC_138P::
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	114.1115	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	114.1115	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.1057	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0663	114.1052	DOMES - PAWHUSKA TAP 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.1038	NEW MADRID 161/22.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	114.0999	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	114.0991	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0933	NEW MADRID 345/22.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	114.081	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	114.081	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0561	114.0801	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0384	114.0787	DBL-WWRD-G11
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	114.0765	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	114.0765	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0751	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0678	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0589	GEN514910 2-REDBUD GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0587	GEN514911 2-REDBUD GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0586	GEN514942 2-REDBUD4G
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0663	114.0562	DOMES - MOUND ROAD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	114.0475	P12:138:OKGE:3TERM11
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	114.0471	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	114.0464	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	114.0375	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0349	GEN514912 2-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	114.0347	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0258	GEN336464 1-MICHOUUD UNIT #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0153	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0142	GEN587387 1-G16-057-GEN20.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0141	GEN587383 1-G16-045-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0118	GEN587307 1-G16-045-GEN20.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	114.0117	GEN587303 1-G16-045-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	114.0053	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	114.0035	P12:138:OKGE:3TERM2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.9978	GEN661015 1-COYOTE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	113.9944	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	113.9944	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	113.9914	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	113.9845	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	113.9815	IMO TAP - MEN TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.9762	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.9754	GEN587333 1-G16-048-GEN10.5200
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	113.9706	LYDIA - WELSH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	113.9706	LYDIA - WELSH 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.9704	P12:069:OKGE:3TERM3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	113.9672	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	113.9626	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.057	113.9544	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	113.9498	P12:138:AEPW:OKMULGE4:R.S.S-4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	113.9467	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.9417	GEN514940 1-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.9404	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	113.9387	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.9361	GEN514905 1-REDBUD3S
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.9355	GEN514899 1-REDBUD1S
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.9355	GEN514900 1-REDBUD2S
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.9335	GEN620315 1-BIG STONE GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.928	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	113.9256	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.9232	GEN587213 1-G16-032-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.9125	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	113.9085	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.9085	P12:161:AEPW:DYESS5:ELMSPRNG:TONTITN5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.9024	GEN334070 1-LEWIS CREEK 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.9024	GEN334071 1-LEWIS CREEK 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.9014	GEN657748 1-YOUNG 2 GENERATOR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.9011	GEN515483 1-BLKWLWD1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	113.8991	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.8967	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	113.8949	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	113.8888	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.8833	GEN336222 1-LITTLE GYPSY UNIT#2

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.8737	GEN659111 2-LELAND OLDS UNIT2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.8636	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	113.8536	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.8463	GEN336151 1-WATERFORD UNIT#1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.8463	GEN336152 1-WATERFORD UNIT#2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.8451	GEN511851 1-COMANCHE #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.057	113.8449	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.84	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.8395	GEN636641 1-LOUISA UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0486	113.8375	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.8372	GEN600004 2-PRAIRIE ISLAND G2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.8353	GEN600003 1-PRAIRIE ISLAND G1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.8341	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0395	113.8333	DBL-WWRD-G11
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.824	GEN600006 1-AS KING
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	113.8218	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	113.8217	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	113.8165	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	113.8143	CLEARWATER - VIOLA 4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.8117	GEN588303 1-ASGI1705-GEN0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	113.8078	FPL SWITCH - WOODWARD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.8061	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.8028	GEN501811 1-RODEMACHER UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.8021	GEN303007 1-1BC2 U2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.8005	GEN303006 1-1BC2 U1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	113.8001	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.8001	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.8001	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.7999	GEN515622 1-KAYWND11 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	113.7943	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.7898	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.7898	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.7867	JOHNSON COUNTY - PITTSBURG 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.7867	JOHNSON COUNTY - PITTSBURG 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	113.7843	MCELROY - UNVRSTY4 138.00 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.7827	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.7702	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.7702	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.7689	GEN515623 1-KAYWND12 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	113.7675	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	113.7675	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.7604	GEN301382 1-10SAGEWINDG10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	113.7603	DOVER SW - OKEENE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.7519	GEN303008 1-1BC2 U3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.7517	P12:138:WFEC:MSL10
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.7421	GEN334030 1-FRONTIER UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.7407	GEN334031 1-FRONTIER UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.7403	P12:161:AEPW:EROGERS5:ECNTRTN5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	113.735	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.7344	PHAROAH - WETUMKA4 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	113.7327	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.7324	GEN336170 1-GULF OXY U4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	113.7317	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	113.7316	3TR3AR8EL7EL
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.7302	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.7287	GEN635213 3-NEAL UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	113.7246	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.7238	GEN587233 1-G16-037-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.7197	GEN600005 1-MONTICELLO
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.7175	GEN562587 1-G14_056_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.7171	FRONTIER - GRIMES 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	113.717	FAIRMONT TAP - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	113.7162	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	113.7159	WOODWARD - WWPAR4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.7134	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.7134	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	113.7126	KNIFE 4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.7108	PARAGON4 138.00 - WETUMKA4 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.7095	PARAGON4 138.00 - TRNCNDACV4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	113.7088	KINZE - MCELROY 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.7049	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	113.6995	P12:138:MKEC:HARPER-CLEARWATER::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	113.6994	DBL-SPRVL-IR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	113.6982	P12:138:WERE:CLWA-MKEC_138F::
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.6969	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	113.6953	CLEARWATER - MILAN TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.6904	P12:161:AEPW-SWPA:BEAVERS:EROGERS5 G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	113.6873	G16-063-TAP 345.00 - HUGO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	113.6848	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6759	KINZE - MCELROY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	113.6759	GEN511847 1-SOUTHWESTERN STATION #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	113.6751	KNIFE 4 138.00 - TRYON 4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6665	GEN520812 1-ANADRK5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6664	GEN520813 1-ANADRK6
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6628	GEN521110 1-ORME1 13.800
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6628	GEN521111 1-ORME2 13.800
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.057	113.6586	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6565	GEN334432 1-SABINE UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6563	GEN334431 1-SABINE UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	113.656	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0486	113.6558	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0561	113.655	P12:138:OKGE:3TERM1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6526	GEN501910 1-ACADIA UNIT ST1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.651	GEN514883 1-SPRING CREEK UNIT 3 AND 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	113.6499	MUSKOGEE - SEMINOLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	113.6498	P13:069-138:WERE:ELPA_TX::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	113.6475	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6457	GEN514882 1-SPRING CREEK UNIT 1 AND 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	113.6431	FPL SWITCH - MOORELAND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	113.6431	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	113.6431	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	113.6431	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	113.6429	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	113.6429	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	113.6417	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	113.6417	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6386	GEN515602 1-KNGFSR12 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.633	GEN509409 1-WILKES #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	113.6326	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	113.6326	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6297	GEN511853 1-COMANCHE #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.6279	GEN563182 1-G15083_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6262	DEWEY - SOUTHWEST 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6245	GEN511846 1-SOUTHWESTERN STATION #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	113.6222	GILL ENERGY CENTER SOUTH - VIOLA 4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.622	GEN511849 1-SOUTHWESTERN STATION #4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6219	GEN511850 1-SOUTHWESTERN STATION #5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6207	GEN514890 1-SMITH 1G
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	113.6193	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	113.6158	EL PASO - FARBER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6149	GEN511852 1-COMANCHE #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.6136	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0682	113.6119	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0682	113.6119	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	113.6104	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.606	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	113.605	P12:138:WERE:CRSW-OGE_138::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0563	113.6007	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0479	113.596	DBL-THIS-WWR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	113.5953	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5952	GEN521112 1-ORME3 13.800
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.5942	CROMWELL - TRNCNDACV4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	113.5937	PECULIAR - STILWELL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5921	RODEMACHER 230/22.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5917	GEN509398 1-KNOXLEE #5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0469	113.5893	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.5878	GEN600001 2-SHERBURNE CNTY G2

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0469	113.5875	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5838	GEN515443 1-MNCOWND1 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.5759	CROMWELL - WEWOKA 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	113.575	CLEAVELAND - SILVER CITY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5743	GEN337757 1-DUKE HOTSPRINGS STG1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5738	GEN337766 1-TRACTEBEL UNIT S1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5724	GEN520811 1-ANADRK4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	113.5723	LYDIA - VALLIANT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	113.5723	LYDIA - VALLIANT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.571	GEN501823 1-TECHE UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5682	GEN336221 1-LITTLE GYPSY UNIT#1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.5657	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	113.562	P12:138:OKGE:3TERM47
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5577	GEN338388 1-1PLUM PT U1 23.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.5546	GEN563082 1-G15073_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	113.5534	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	113.5534	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5521	SABINE 230/24.0KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0563	113.5501	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	113.5462	TRYON 4 138.00 - WARWICK 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5438	GEN501970 1-EVANGELINE UNIT 7
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5437	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	113.5378	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	113.5362	LACYGNE - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5348	GEN336446 1-MICHOUD UNIT #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.5328	ACORN 4 138.00 - JONESSB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	113.5321	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.5315	ALVA - ALVA 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	113.5312	DRAPER LAKE - SEMINOLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	113.5312	DRAPER LAKE - SEMINOLE 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.5309	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0479	113.5306	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	113.5299	GOLTYTP2 69.000 - IMO 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5262	P12:138:WFEC:MSL09
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5257	GEN562590 1-G14_057_3 0.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5227	P12:69:AEPW:NROGERS2:ECNTRT2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	113.522	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0577	113.5217	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0577	113.5217	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	113.519	WEBRE - WELLS 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0546	113.5181	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.5173	P12:138:WFEC:MSL13
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5171	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5171	ST FRANCIS 161/16.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	113.5132	GOLTYTP2 69.000 - HELENA TAP 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.5127	P12:138:AEPW:MOHAWK4:T.NO--4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	113.5099	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5081	GEN334392 1-EXXON MOBIL IPP 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5074	GEN336242 1-1NMIL ST1 18.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5063	GEN337764 1-TRACTEBEL UNIT C1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5063	GEN337765 1-TRACTEBEL UNIT C2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	113.5061	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5052	GEN338443 1-PANDA S1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.505	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5049	GEN334393 1-EXXON MOBIL IPP 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5049	GEN334394 1-EXXON MOBIL IPP 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5028	GEN514897 1-SMITH 1S
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5022	GEN501971 1-EVANGELINE UNIT 7-1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5022	GEN501972 1-EVANGELINE UNIT 7-2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5018	GEN515607 1-CANDN12 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.5017	GEN515606 1-CANDN11 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.4982	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.4982	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4961	GEN501912 1-ACADIA UNIT CT1B
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.496	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4957	GEN501911 1-ACADIA UNIT CT1A
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0577	113.4944	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	113.4943	FULTON 115 - HOPE 115KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	113.4943	FULTON 115 - HOPE 115KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4896	P12:138:AEPW:BA_71ST4:T.S.E.-4

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	113.4885	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.4882	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4878	SABINE 230/22.0KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0563	113.4874	DOVER SW - HENESSEY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4873	GEN335612 1-WILLOW GLENN UNIT#2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0463	113.4871	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4855	ST FRANCIS 2 161/16.0KV TRANSFORMER CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4855	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.4847	CRAIG - WEST GARDNER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.4829	GEN600000 1-SHERBURNECNTY G1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.4775	5LOCSTGV - MAID 161KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.4775	5LOCSTGV - MAID 161KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	113.4771	KETCH - KETCH TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.476	P12:138:AEPW:YARCH-S4:T.S.E.-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	113.4744	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4737	GEN563062 1-G15071_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	113.4724	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4722	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.471	P12:138:WERE:HOOV-MURR 138::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.4703	5CDRCRST 161.00 - 5LOCSTGV 161KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4693	GEN337430 1-PERYVILLE UNIT #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.4691	P12:161:GRDA:MAID-CEDARCREST
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4688	GEN337428 1-PERYVILLE UNIT #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	113.4649	MC NIEL 500/115KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0557	113.4624	MARSHALL - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	113.4572	CUSTER4 138.00 - ELLIS 4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.457	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.457	GEN509408 1-WILKES #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	113.4569	P12:138:OKGE:3TERM47
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.452	P12:138:WERE:BENT-NORT 138P::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4509	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4479	GEN336240 1-1NMIL CT1 18.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4479	GEN336241 1-1NMIL CT2 18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.4478	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	113.4314	GEN562602 1-G15_029_3 0.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.057	113.4044	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.057	113.4037	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0557	113.3764	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.3637	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.3327	GEN344225 1-1CAL G1 25.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	113.3304	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.3294	GEN532720 1-CANEYWF1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0332	113.3173	G16-061-TAP 345.00 - SOONER 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0559	113.3018	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.2792	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	113.2758	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0546	113.2649	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.2294	GEN562479 1-G14_001_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.2265	GEN635214 4-NEAL UNIT 4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.057	113.1804	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	113.1755	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	113.102	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.0925	GEN600002 3-SHERBURNE CNTY G3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	113.0772	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	113.0678	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	113.0457	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.042	GEN587163 1-G16-022-GEN10.6500
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	113.0348	GEN533141 1-SLATEGEN1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	113.0249	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	113.0249	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	113.0217	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	113.0217	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	113.0126	MORISNT4 138.00 - SOONER 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	113.008	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	113.008	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0559	113.0013	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.9975	GEN645011 1-NEBRASKA CITY 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0578	112.9806	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0695	112.9663	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.9572	GEN563032 1-G15067_3 0.4180
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0695	112.9539	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.924	GEN563242 1-G15090_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.924	GEN587503 1-G73-073-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.9231	GEN562720 1-G15_025_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0546	112.9229	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.9223	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.9216	GEN562718 1-G15_024_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.8996	GEN563052 1-G15069_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.036	112.8939	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0695	112.8835	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.8764	GEN645012 2-NEBRASKA CITY 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0695	112.8722	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	112.8587	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.851	GEN514643 1-BRKWND11 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	112.8439	NOEL_SW 138.00 - ROSE VALLEY 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0695	112.8429	DOMES - MOUND ROAD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	112.828	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	112.828	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	112.826	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.057	112.8242	P12:138:OKGE:3TERM11
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0593	112.8235	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	112.8214	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0566	112.8193	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0594	112.8193	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	112.8154	BENTON - WOLF CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	112.8127	REDBUD - RIVERSIDE STATION 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	112.8127	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0462	112.8092	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	112.8066	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	112.8066	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	112.8009	7SPORTSMAN - BLACKBERRY 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0566	112.7937	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7911	GEN532702 1-BPU - CITY OF MCPHERSON GAS TURBINE 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	112.7903	KEO EHV - WHITE BLUFF 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7892	P12:138:AEPW:S.W.S.-4:L.E.S.-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7891	GEN629069 1-EMERY STEAM TURBINE 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7888	BAXTER WILSON SES - RAY BRASWELL SES 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7887	LONEOAK - NORTHWEST 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	112.7881	HIGHLAND - PINK SW 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0566	112.7802	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	112.7744	7MCCREDIE 345.00 - 7OVERTON 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7734	GEN629072 4-LANSING GENERATOR FOR UNITS NO4 EIA CODE 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7716	GEN539655 1-CLIFTON GENERATOR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7683	GEN657749 1-YOUNG 1 GENERATOR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	112.768	4LUTHERD 138.00 - 4WARWICK 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7644	GEN542963 7-HAWTHORN COMBUSTION TURBINE #7
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7635	GEN511941 1-OEC STEAM # 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.763	P12:138:AEPW:112GORE4:L.E.S.-4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.7626	GEN542951 5-HAWTHORN UNIT #5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7622	GEN652559 1-OAHE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7621	GEN532694 1-HUTCHINSON ENERGY CENTER UNIT 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7594	GEN511938 1-OEC STEAM # 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7594	GEN541154 3-RALPH GREEN GENERATING UNIT #3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	112.7586	P12:138:WFEC:MSL14
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7552	GEN547643 1-RIVERTON GEN #13
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	112.7541	P12:138:WFEC:MSL03
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	112.7525	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.7516	QUAIL CREEK - SKYLINE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7511	GEN640028 1-COLUMCOGENERATION
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7508	GEN542964 8-HAWTHORN COMBUSTION TURBINE #8
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7493	GEN539670 4-JUDSON LARGE GENERATOR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7444	GEN645022 2-NORTH OMAHA 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7442	GEN546697 1-QN GEN1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7441	GEN300017 1-1G2GPDEL 18.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7439	GEN652556 2-OAHE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7439	GEN652557 4-OAHE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7439	GEN652558 6-OAHE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.7438	GEN300003 1-THOMAS HILL UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7403	GEN539677 3-A. M. MULLERGREN GENERATOR
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	112.74	LACYGNE - STILWELL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7372	GEN659125 1-COVEY
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.7361	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0464	112.736	BLLNGTP4 138.00 - FNTANTP4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	112.7347	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7329	GEN652460 4-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7329	GEN652461 5-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7319	GEN640005 1-CANADAY
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7316	GEN652457 1-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7316	GEN652458 2-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7316	GEN652459 3-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7292	GEN300016 1-1G1GPDEL 18.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7279	GEN543078 1-PAOLA COMBUSTION TURBINES
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7267	GEN640019 1-SHELDON STATION UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	112.7265	DOLET HILLS 345/230KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	112.7231	4LUTHERD 138.00 - LUTHER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7226	GEN532671 1-TECUMSEH ENERGY CENTER UNIT 7
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7211	GEN546723 1-NEARMAN CT4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	112.721	CROCKETT - GRIMES 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	112.721	CROCKETT - GRIMES 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.7203	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.719	GEN647418 8-FREMONT 8

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7189	GEN543106 1-BULL CREEK COMBUSTION TURBINE #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7157	P12:69:AEPW:L.E.S.-2:LAW WC2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.7144	MORGAN - MUSTANG 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7101	GEN543108 3-BULL CREEK COMBUSTION TURBINE #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7101	GEN543109 4-BULL CREEK COMBUSTION TURBINE #4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.7088	GEN543107 2-BULL CREEK COMBUSTION TURBINE #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	112.7085	8BHAM STEEL 500.00 - WEST MEMPHIS 500 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	112.6986	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6914	GEN300012 1-HOLDEN UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	112.6889	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6884	GEN511836 1-NORTHEASTERN STATION #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.6878	MORGAN - XEROX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	112.6844	P12:138:WERE:ELPA-SUMN_138::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.6836	CZECH HALL - XEROX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6835	GEN672321 1-SHAND GENERATOR 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.6829	GEN640009 1-COOPER NUCLEAR STATION
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	112.6814	8HOLND BTM% 500.00 - KEO EHV 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6767	GEN659018 1-G14_003IS_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	112.6735	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	112.6735	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.6728	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6711	JENSEN ROAD - JENSEN TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	112.6704	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	112.6704	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6699	GEN344896 3-1LAB G3 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6694	GEN672306 6-BOUNDARY DAM GENERATOR 6
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6693	GEN344895 2-1LAB G2 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6689	GEN344897 4-1LAB G4 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6688	GEN344894 1-1LAB G1 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	112.6658	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	112.6658	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.662	GEN672310 1-POPLAR RIVER GENERATOR 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.662	GEN672311 2-POPLAR RIVER GENERATOR 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6615	FLATRDG3 - THISTLE4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6615	FLATRDG3 - THISTLE4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6614	THISTLE7 345.00 (THISTLE T1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6599	P12:138:AEPW:SHERID4:112GORE4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.659	GEN511842 1-RIVERSIDE STATION #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.659	GEN645033 3-SARPY COUNTY 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6575	GEN511843 1-RIVERSIDE STATION #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	112.6572	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	112.6563	P12:138:AECI:STROUD-LUTHER
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	112.6562	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	112.6528	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	112.6496	GEN501801 1-DOLET HILLS UNIT1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6494	GEN681522 3-GENOA 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0483	112.6482	CIMARRON - MINCO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	112.6476	GEN336821 1-GRAND GULF UNIT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6471	GEN659289 1-DAYCNTYWND W0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	112.6454	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0464	112.6448	CWBOYHT4 138.00 - FNTANTP4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6396	GEN531447 1-HOLCOMB GENERATOR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.6381	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.6362	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	112.6342	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	112.6342	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	112.6337	FRANKLIN - PINK SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	112.6328	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6317	P12:69:AEPW-OMPA:SNYDER-2:ALTUSJT2:OMALTUS2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6312	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0464	112.631	CWBOYHT4 138.00 - MARLAND TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6301	GEN532705 1-BPU - CITY OF MCPHERSON GAS TURBINE 4

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	112.6295	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6272	GEN661015 1-COYOTE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.6269	MIDLTNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	112.6246	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	112.6243	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6221	GEN529252 1-OMPA-KAW
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6215	THOMAS HILL 161/22.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.62	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.6199	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6161	P12:138:OKGE:3TERM10
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6138	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6104	GEN645024 4-NORTH OMAHA 4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0798	112.608	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.6046	GEN300015 1-1SGPDEL 18.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0587	112.6041	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.6009	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.5986	CIMARRON - CZECH HALL 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	112.5969	OVEXFRMCCOVE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	112.5948	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	112.5945	G15095_T 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5933	GEN659354 1-DEERCREK STG18.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5931	GEN659353 1-DEERCREK CTG18.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5873	PLUM POINT 500/23.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5863	GEN541167 3-SHARPR#3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5842	GEN300020 1-1CHOTCT4 16.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.584	GEN300021 1-1CHOTCT5 16.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5837	GEN300032 1-CHOUTEAU CTG 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5837	GEN300033 1-CHOUTEAU STG 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5815	GEN541165 1-SHARPR#1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5815	GEN541166 2-SHARPR#2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5807	GEN542961 6-HAWTHORN COMBUSTION TURBINE #6
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5775	GEN681542 6-JP MADGETT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5604	GEN300024 1-1CHOTST6 16.000

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5604	GEN300031 1-CHOUTEAU CTG 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	112.5528	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5455	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.5435	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	112.5415	COW CREEK - MORRISON 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0464	112.5412	MARLAND TAP - OSAGE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0563	112.5408	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0549	112.5378	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5364	GEN300010 1-ST FRANCIS UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5351	4SIOUX 1 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	112.5327	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	112.5327	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	112.5254	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	112.525	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	112.525	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5223	GEN546698 1-QN GEN2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.5151	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.515	GEN542967 9-HAWTHORN UNIT #9
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.5146	GEN549890 1-SOUTHWEST 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	112.5136	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	112.5136	GEN515040 1-SEMINOLE 1G
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	112.509	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	112.509	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	112.5067	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	112.5011	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	112.5011	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	112.4976	DEWEY - SOUTHARD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4971	GEN532724 1-EVANS ENERGY CENTER GAS TURBINE 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4924	P12:138:AEPW:DUNCAN-4:L.E.S.-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4908	GEN562892 1-G15048_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	112.4887	FRANKLIN - FRANKLIN SW 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	112.4878	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	112.4878	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	112.4867	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.481	GEN300011 1-ST FRANCIS UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4778	GEN620315 1-BIG STONE GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4752	ALMA 161 161/24.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4733	GEN657748 1-YOUNG 2 GENERATOR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4719	GEN532723 1-EVANS ENERGY CENTER GAS TURBINE 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4686	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4686	ASGI1705 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0462	112.4628	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0462	112.4626	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0462	112.4626	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4623	GEN505432 1-SIKESTON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.462	CLAY BOSWELL 230/20.9KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	112.4575	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.4568	GEN542956 2-LACYGNE UNIT #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	112.4557	DBL-SPRVL-IR
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	112.4542	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	112.4542	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	112.4487	GEN336153 1-WATERFORD UNIT#3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4418	4OSAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4415	4OSAGEWIND 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4352	GEN645041 1-CASS COUNTY 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4329	GEN645042 2-CASS COUNTY 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.427	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.427	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.427	GEN547656 1-STATE LINE UNIT #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4246	GEN547657 1-STATE LINE UNIT #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	112.4239	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	112.4236	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 2

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.4135	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	112.4116	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	112.4116	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	112.4081	P12:138:AEPW:OKMULGE4:R.S.S-4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.4049	GEN562772 1-G15034_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.404	GEN562658 1-G15_001_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	112.3982	4MEMORAL 138.00 - LUTHER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.3971	GEN300001 1-THOMAS HILL UNIT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.3945	GEN542957 1-IATAN UNIT #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	112.3912	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.055	112.3873	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.3807	P12:069:OKGE:3TERM4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.3783	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.3782	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.371	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	112.3693	MARSHALL - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.366	GEN659110 1-LELAND OLDS UNIT1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	112.3645	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0554	112.3604	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	112.3597	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	112.3596	3TR3AR8EL7EL
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0485	112.3592	OTTER - WOODRING 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	112.359	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	112.357	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	112.3567	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.3554	GEN641089 2-ENERGY CENTER 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	112.3528	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.3433	GEN600004 2-PRAIRIE ISLAND G2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.3396	GEN600003 1-PRAIRIE ISLAND G1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	112.3359	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.3204	GEN600006 1-AS KING
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0558	112.3199	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0558	112.3199	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.3177	GEN547658 1-STATE LINE COMBINED CYCLE

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	112.3155	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	112.3125	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	112.3125	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	112.3119	P12:138:AEI:LUTHER-JONES
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0575	112.3096	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.3054	GEN513602 1-GRECSTG_1 17.500
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	112.3015	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.2898	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.2889	GEN532733 1-GILL ENERGY CENTER UNIT 3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0554	112.2843	P13:069-138:WERE:ELPA_TX-1::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.283	GEN532734 1-GILL ENERGY CENTER UNIT 4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	112.2817	VIOLA 7 345.00 (VIOLA 1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0554	112.2771	EL PASO - FARBER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	112.2771	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	112.2771	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	112.2771	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	112.2769	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.2767	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	112.273	PECULIAR - STILWELL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	112.2694	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0556	112.2626	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.2612	GEN549893 2-SOUTHWEST 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	112.257	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.255	GEN635213 3-NEAL UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.057	112.2434	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.243	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.243	GEN636641 1-LOUISA UNIT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	112.2355	WEBRE - WELLS 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	112.2319	GEN335831 1-RIVERBEND UNIT#1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.231	GEN615001 1-COAL CREEK
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.2274	GEN615002 2-COAL CREEK
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	112.2224	BOWMAN - TURCRKT2 69.000 69KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0489	112.2173	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.2159	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0489	112.2157	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.2129	GEN532742 5-EMPORIA ENERGY CENTER UNIT 5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.2073	GEN560248 1-G10_003_2 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.2072	FRONTIER - GRIMES 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.2065	GEN532957 1-WAVERGEN1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	112.2041	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0558	112.2017	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.1989	CRESENT - TWIN LAKES 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	112.1964	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.1932	GEN541162 1-ARIES STEAM TURBINE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.1923	GEN547649 1-ASBURY UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.1857	GEN562723 1-G15_030_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	112.1856	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	112.1823	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0556	112.1821	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.1805	GEN532743 6-EMPORIA ENERGY CENTER UNIT 6
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.1805	GEN532744 7-EMPORIA ENERGY CENTER UNIT 7
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	112.1638	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.1602	GEN600001 2-SHERBURNE CNTY G2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.1598	GEN600005 1-MONTICELLO
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	112.1582	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	112.1582	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0562	112.1581	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	112.1455	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.1438	P12:069:OKGE:3TERM3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.142	GEN587483 1-G16-071-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	112.1377	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	112.1346	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.1346	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0558	112.1305	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.1278	COTTONWOOD CREEK - CRESENT 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.1202	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	112.1189	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.1163	GEN600000 1-SHERBURNECNTY G1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.1145	GEN533124 1-FR2E2WF1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	112.1139	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.1118	GEN533126 1-FR2W2WF1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0702	112.1106	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0702	112.1106	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0485	112.1081	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0485	112.1081	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	112.1031	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	112.1031	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	112.1031	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	112.1031	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	112.0996	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	112.0994	CLEAVELAND - SILVER CITY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	112.0913	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	112.0887	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	112.0859	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.0817	GEN533123 1-FR2E1WF1 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.079	GEN533125 1-FR2W1WF1 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	112.0695	GEN542955 1-LACYGNE UNIT #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.0633	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	112.0615	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0551	112.0569	CUSHING - GRNWOOD4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	112.0567	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.0564	P12:161:AEPW:EROGERS5:ECNTRTN5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	112.0527	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0686	112.0515	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.0456	P12:161:AEPW:DYESS5:ELMSPRNG:TONTITN5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0686	112.0439	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.0364	GEN300002 1-THOMAS HILL UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	112.0331	GEN587333 1-G16-048-GEN10.5200
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	112.0299	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	112.0198	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0556	112.0188	IMO TAP - MEN TAP 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	112.0179	KETCH - KETCH TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	112.0159	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	112.0159	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	112.0159	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	112.0159	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	112.0126	P12:138:WERE:CRSW-SUMN_138::
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	112.0034	CRESWELL - OXFORD 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	112.001	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	111.9973	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.9965	GEN590010 1-ERCOT EQUIVALENCE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.9947	P12:138:WFEC:MSL10
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	111.9936	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	111.9935	OKEENE - WATONGA SW 69KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.9935	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	111.9933	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	111.9933	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	111.9925	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	111.9925	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	111.9918	OXFORD - SUMNER 4 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.9879	GEN515483 1-BLKWLWD1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	111.985	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.9833	PHAROAH - WETUMKA4 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0584	111.9801	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0584	111.9801	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	111.98	BOWMAN - KINGINDT2 69.000 69KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	111.9749	4WOODY 138.00 - BRISTOW 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.9736	P13:069-138:WERE:BTUL_TX-1::
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.9728	ALTOONA - BUTLER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.9718	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.9717	P12:138:WFEC:MSL13

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0556	111.9695	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.055	111.9694	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0686	111.9667	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.9657	GEN590011 2-ERCOT EQUIVALENCE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	111.9631	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	111.9631	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0686	111.9627	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	111.9623	4WOODY 138.00 - PHAROAH 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	111.9623	4WOODY 138.00 - PHAROAH 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	111.9595	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.957	GEN645025 5-NORTH OMAHA 5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	111.9528	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	111.9528	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.9527	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.9527	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	111.9526	KNGINDT2 69.000 - OKRCHET2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	111.9508	GEN563022 1-G15066_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0686	111.9503	DOMES - MOUND ROAD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.9457	P12:138:WFEC:MSL09
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	111.9454	NEOSHO - SUB 452 - RIVERTON 161KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	111.9445	BRISTOW - GRNWOOD4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.9438	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.9403	MC NIEL 500/115KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.9357	GEN546702 1-NM GEN N1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	111.9353	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	111.9353	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	111.935	CIMARRON - MATHWSN7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	111.935	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.9327	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.9326	GEN562694 1-G15_016_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.9308	LAYFLD8 500.00 - MOUNT OLIVE 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.9252	GEN509394 1-FLINT CREEK
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	111.9239	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	111.9146	FAIRMONT TAP - WOODRING 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	111.914	GEN542962 2-IATAN UNIT #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.9129	GEN344225 1-1CAL G1 25.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	111.9118	P12:138:WERE:CRSW-OGE_138::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.9086	GEN529201 1-OMCDLEC1 13.800
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0478	111.9024	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.9015	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.9002	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.9002	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	111.8993	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	111.8993	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.8963	GEN635214 4-NEAL UNIT 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	111.8954	G16-037-TAP 345.00 - GRACEMONT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	111.8946	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	111.8938	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	111.8788	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	111.8597	GEN562691 1-G15_015_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.8542	GEN300006 1-NEW MADRID UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0496	111.8482	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.8458	GEN513601 1-GRECCTG_1 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.8444	GEN300007 1-NEW MADRID UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.8423	GEN600002 3-SHERBURNE CNTY G3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.838	GEN532725 1-EVANS ENERGY CENTER GAS TURBINE 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.8241	GEN587213 1-G16-032-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.8182	GEN511840 1-NORTHEASTERN STATION #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0333	111.8125	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.812	GEN532721 1-EVANS ENERGY CENTER UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	111.8111	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	111.8111	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.793	GEN515622 1-KAYWND11 0.7000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	111.7917	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	111.7914	P12:138:OKGE:3TERM2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.7906	GEN588303 1-ASGI1705-GEN0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0469	111.7861	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.78	GEN511839 1-NORTHEASTERN STATION #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.7734	GEN515623 1-KAYWND12 0.7000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.7592	GEN509416 1-TURK GENERATION
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	111.7476	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.7454	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.7356	GEN301382 1-10SAGEWINDG10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	111.7268	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	111.7268	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.7188	P12:138:AEPW:CORNVL4:DUNCAN-4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	111.718	GEN562902 1-G15052_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	111.7047	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	111.6983	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	111.6983	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.6887	GEN659111 2-LELAND OLDS UNIT2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	111.665	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	111.648	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	111.6324	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0799	111.6297	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.6278	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.6221	GEN335206 1-NELSON UNIT 6
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.6126	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.6073	GEN509403 1-PIRKEY GENERATION
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	111.5942	COW CREEK - MORRISON 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0334	111.5893	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	111.5844	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.5716	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.5716	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.5624	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.5595	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.5595	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	111.5365	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	111.5365	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.531	GEN563082 1-G15073_3 0.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	111.5125	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	111.5082	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.5021	GEN527901 1-HOBBS PLANT #1 (CT)
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.5001	GEN563182 1-G15083_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	111.4745	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.4711	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0562	111.4629	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0562	111.4629	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	111.4617	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	111.4604	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.4577	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	111.45	P12:138:OKGE:3TERM11
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.4411	GEN515449 1-CRSRDW11 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0488	111.393	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0488	111.393	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.055	111.3872	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.3436	GEN587387 1-G16-057-GEN20.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.3435	GEN587383 1-G16-045-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.3413	GEN587307 1-G16-045-GEN20.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.3412	GEN587303 1-G16-045-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.3261	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.3205	GEN512688 2-GRDA1 GSU2 22
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.2962	GEN501813 1-RODEMACHER UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	111.2884	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	111.2775	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.2737	GEN532720 1-CANEYWF1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.2733	GEN501812 1-RODEMACHER UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	111.2676	LACYGNE - STILWELL 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0489	111.2661	CWBOYHT4 138.00 - FNTANTP4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	111.2629	P12:138:AECI:STROUD-LUTHER
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.2615	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.2615	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0489	111.2567	CWBOYHT4 138.00 - MARLAND TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	111.2553	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	111.2553	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.2507	P12:230:UMZB:# 112 #: NU IN SD. NU-RCDC & DRY CREEK XFMR
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.2507	RCDC EAST 4230.00 - RED CEDAR DC 230KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0483	111.25	GRACEMONT - MINCO 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	111.2498	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	111.2476	P12:138:WFEC:MSL14
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.2456	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	111.2441	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	111.2409	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	111.2409	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.2359	GEN562479 1-G14_001_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0456	111.2352	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0456	111.2352	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.2323	CHISNEY - CLARKSVILLE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	111.2292	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0456	111.2287	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0456	111.2287	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.2275	P12:69:AEPW-OMPA:SNYDER-2:ALTUSJT2:OMALTUS2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.2259	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.2116	QUAIL CREEK - SKYLINE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0489	111.208	MARLAND TAP - OSAGE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.2051	CRESENT - TWIN LAKES 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	111.2031	DBL-SPRVL-IR
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	111.2028	OVEXFRMCCOVE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.1976	MORGAN - MUSTANG 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.1946	CHISNEY - HIGHLAND 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.1895	GEN514910 2-REDBUD GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.1872	GEN514911 2-REDBUD GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.1872	GEN514942 2-REDBUD4G
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	111.184	TUPELO - TUPELO TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.1817	P12:138:WFEC:MSL03
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.181	MORGAN - XEROX 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.1781	CZECH HALL - XEROX 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0566	111.178	4MEMORAL 138.00 - LUTHER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.1775	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.1774	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.1774	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.1749	COTTONWOOD CREEK - CRESENT 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.1744	P12:138:AEPW:DUNCAN-4:L.E.S.-4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	111.1697	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.1688	CIMARRON - SARA 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	111.1655	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	111.1642	WEBRE - WELLS 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	111.1519	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	111.15	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.1455	HIGHLAND - PINK SW 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.1442	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.1429	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.1416	P12:230:AEPW:ELKCITY6:SWEETWT6
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	111.139	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	111.139	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0549	111.1384	NOEL_SW 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.1378	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	111.1373	CHISHOLM7 345.00 (CHISHOLM) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	111.1373	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.1359	FAIRVIEW - OKEENE 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	111.1337	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.055	111.1323	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	111.1315	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0548	111.1289	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0566	111.128	P12:138:AECI:LUTHER-JONES
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0554	111.1254	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.1252	CIMARRON - CZECH HALL 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0566	111.1179	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0558	111.117	KNIFE 4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0558	111.1056	KNIFE 4 138.00 - TRYON 4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.0897	GEN514905 1-REDBUD3S
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0706	111.0789	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0706	111.0789	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0575	111.0779	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	111.0693	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.0667	NEW MADRID 345/22.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	111.061	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	111.061	DELAWARE - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.061	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	111.0596	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.0544	GEN563242 1-G15090_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.0544	GEN587503 1-G73-073-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.054	GEN562720 1-G15_025_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.0536	GEN562718 1-G15_024_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.0487	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.044	GEN560183 1-REDHIL-WTG1 12.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	111.0409	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.0405	GEN587233 1-G16-037-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	111.0376	DEWEY - SOUTHARD 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	111.0373	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.0371	GEN562587 1-G14_056_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	111.0354	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	111.0354	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0575	111.0343	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	111.0323	P13:069-138:WERE:ELPA_TX-1::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0556	111.0201	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0556	111.0201	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.0159	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.0159	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	111.0109	P12:138:WERE:MURR-MKEC_138P::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	111.0078	EL PASO - FARBER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.0051	GEN524295 1-SPNSPUR_WND10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	111.0047	GEN521103 1-BLUE CANYON WIND FARM
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	111.0042	GEN587163 1-G16-022-GEN10.6500
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	110.9999	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9988	GEN334440 1-SABINE UNIT 4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0575	110.9941	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.993	DBL-HTCH-OTA
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.9867	GEN514643 1-BRKWND11 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.971	GEN524285 1-WILDORADO WIND GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	110.9706	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	110.9696	G1524G1525 345.00 - WICHITA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	110.9696	G1524G1525 345.00 - WICHITA 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0575	110.9693	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.9693	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	110.9692	FRANKLIN - PINK SW 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9676	GEN525844 1-ELK_1 118.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	110.9663	TRYON 4 138.00 - WARWICK 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9638	GEN515602 1-KNGFSR12 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.9607	GEN563032 1-G15067_3 0.4180
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	110.9589	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	110.9587	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	110.9587	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0558	110.9568	CLEVELAND - SILVER CITY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	110.9462	PECULIAR - STILWELL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9435	GEN336170 1-GULF OXY U4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	110.9346	CLEARWATER - VIOLA 4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	110.9337	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	110.9319	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9302	GEN334030 1-FRONTIER UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9301	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.929	GEN335204 1-NELSON UNIT 4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9287	GEN334031 1-FRONTIER UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.9279	GEN533141 1-SLATEGEN1 0.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9268	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	110.9247	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9238	GEN523461 1-BLACKHAWK GEN #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	110.9181	IMO TAP - MEN TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	110.917	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	110.9108	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9102	GEN336831 1-BAXTER WILSON SES
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	110.9085	P12:138:WFEC:MSL15
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	110.9084	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	110.9079	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	110.9079	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9077	P13:069-138:WERE:BUTL_TX-1::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	110.9075	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	110.9073	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.907	ALTOONA - BUTLER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0581	110.9062	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0581	110.9062	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.9023	GEN515443 1-MNCOWND1 0.7000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	110.8973	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	110.8972	4OSAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.8933	GEN563052 1-G15069_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	110.8931	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0549	110.8904	G15095_T 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8885	FRONTIER - GRIMES 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	110.8845	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	110.8844	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	110.8844	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	110.8831	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	110.8831	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.8828	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.8799	P13:069-138:WERE:ALTO_TX-1OR3P::

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	110.879	KINZE - MCELROY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8746	GEN560105 1-G08-22 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8708	GEN562550 1-G14_040_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	110.8696	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	110.8643	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	110.8634	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8614	NEW MADRID 161/22.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	110.8612	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	110.8612	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0581	110.8572	P12:138:AEPW:BV-COM-4:BV-SE--4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	110.8551	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8504	GEN587423 1-G16-062-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8425	GEN562590 1-G14_057_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	110.8324	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8302	GEN515223 1-MUSKOGEE 4G
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	110.8288	GILL ENERGY CENTER SOUTH - VIOLA 4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	110.8264	ROSE HILL - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0544	110.8222	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8199	GEN515606 1-CANDN11 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8199	GEN515607 1-CANDN12 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8175	GEN337041 1-GERALD ANDRUS
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	110.8151	NORTHEAST STATION - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	110.8151	NORTHEAST STATION - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8142	GEN514912 2-REDBUD GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.8059	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	110.7982	GEN562882 1-G15047_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	110.797	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	110.797	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	110.7941	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0555	110.7876	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0551	110.7851	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0551	110.7851	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7847	GEN562270 1-G12-020-2 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7843	GEN563062 1-G15071_3 0.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7838	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	110.7809	HUGO - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	110.7809	HUGO - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0557	110.778	7OVERTON 345.00 - SIBLEY 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0557	110.778	7OVERTON 345.00 - SIBLEY 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7749	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	110.7691	DBL-THIS-G15
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7678	GEN336464 1-MICHLOUD UNIT #3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.7661	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7649	GEN334441 1-SABINE UNIT 5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7638	GEN562269 1-G12-020-1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	110.7615	NEOSHO - SUB 452 - RIVERTON 161KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	110.761	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0551	110.7599	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0551	110.7597	WOODWARD - WWPAR4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.7567	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	110.7556	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.7536	STATELINE INTERCHANGE - STLN-DEMAR6 230KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7536	GEN562602 1-G15_029_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.7535	P12:230:AEPW-SPS:SWEETWT6:WHEELER 6
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.7533	STLN-DEMAR6 - SWEETWATER 230KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7522	GEN334392 1-EXXON MOBIL IPP 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0546	110.7489	DOVER SW - OKEENE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7475	GEN303007 1-1BC2 U2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	110.7469	MCADAMS - WOLF CREEK 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0543	110.7468	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	110.7465	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	110.7465	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7457	GEN334393 1-EXXON MOBIL IPP 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7457	GEN334394 1-EXXON MOBIL IPP 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.743	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7413	GEN303006 1-1BC2 U1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7399	GEN336242 1-1NMIL ST1 18.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7396	DOVER - DOVER SW 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	110.7386	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.055	110.7376	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	110.7361	4WOODY 138.00 - PHAROAH 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	110.7361	4WOODY 138.00 - PHAROAH 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	110.7341	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	110.7341	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0425	110.7331	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7322	GEN334433 1-SABINE UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7295	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7287	GEN524485 1-CAPROCK WIND GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7282	GEN587373 1-G16-056-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.727	DOVER - TWIN LAKES 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	110.7239	CIMARRON - MATHWSN7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	110.7239	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	110.7226	KETCH - KETCH TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	110.7218	OKEENE - WATONGA SW 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7211	GEN515393 1-OGEWND2G
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7207	GEN528361 1-MADDOX GEN #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0542	110.7199	BOWMAN - KINGINDT2 69.000 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	110.7192	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	110.7192	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.7191	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	110.7108	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.6921	GEN563162 1-G15081_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	110.6409	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0553	110.6409	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0488	110.6166	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	110.6086	P12:138:AEPW:CORNVIL4:DUNCAN-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.5739	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	110.5711	P12:138:OKGE:3TERM1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	110.5576	LYDIA - WELSH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	110.5576	LYDIA - WELSH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	110.5172	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	110.5027	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	110.5	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	110.4946	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0539	110.494	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.4917	GEN645011 1-NEBRASKA CITY 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	110.4489	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	110.4407	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	110.4348	GEN514805 1-SOONER UNIT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	110.3882	GEN514806 1-SOONER UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.3866	GEN533124 1-FR2E2WF1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0486	110.386	OTTER - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.3819	GEN533126 1-FR2W2WF1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.3564	GEN533123 1-FR2E1WF1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.3498	GEN533125 1-FR2W1WF1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.3494	GEN562772 1-G15034_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.3465	GEN562658 1-G15_001_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.3403	GEN645012 2-NEBRASKA CITY 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	110.334	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.3221	GEN542951 5-HAWTHORN UNIT #5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.322	GEN640009 1-COOPER NUCLEAR STATION
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	110.32	G16-063-TAP 345.00 - HUGO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.317	GEN300003 1-THOMAS HILL UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	110.1986	DOVER SW - HENESSEY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0489	110.1693	G15-015T 138.00 - MDRDTP4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	110.1641	DBL-THIS-G15
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.1599	GEN511840 1-NORTHEASTERN STATION #3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	110.1461	LYDIA - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	110.1461	LYDIA - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.1205	GEN590010 1-ERCOT EQUIVALENCE
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.1077	GEN590011 2-ERCOT EQUIVALENCE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.095	GEN562723 1-G15_030_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	110.0888	GEN515484 1-CHSHMVW1 0.5750
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	110.0873	GEN515479 1-CHSHMVE1 0.5750
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	110.0863	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	110.0729	ARCADIA - SEMINOLE 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.0701	CIMARRON - SARA 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	110.0696	DRAPER LAKE - SEMINOLE 345KV CKT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0559	110.0676	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0559	110.0676	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	110.0571	CROCKETT - GRIMES 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	110.0571	CROCKETT - GRIMES 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.0566	GEN560768 1-MRWY-WG1 1.0000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0391	110.0521	DBL-TGA-MATT
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.052	P12:138:WFEC:MSL03
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.049	P12:138:AEPW-OGE:WELETK4:MAUD 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.0409	GEN587483 1-G16-071-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	110.0273	HOLCOMB - SETAB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	110.0273	HOLCOMB - SETAB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	110.0234	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.0204	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.0199	GEN300007 1-NEW MADRID UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.0193	P12:138:WFEC:MSL08
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	110.0191	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.0171	GEN300002 1-THOMAS HILL UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	110.0128	UNITED CLAY - WEWOKA 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	110.0098	GEN530594 1-SMKYP1G1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	110.0028	GEN532722 1-EVANS ENERGY CENTER UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	109.994	HAZEL JCT - UNITED CLAY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.99	GEN661015 1-COYOTE
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.9838	ALMA 161 161/24.0KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.9837	GEN657748 1-YOUNG 2 GENERATOR
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	109.9799	CLARKSVILLE - HAZEL JCT 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.9798	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	109.9756	TUPELO - TUPELO TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.9729	GEN344894 1-1LAB G1 20.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	109.9618	GEN562611 1-G14_064_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	109.9535	CHISNEY - CLARKSVILLE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	109.9468	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.9458	GEN529252 1-OMPA-KAW
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	109.9446	MINGO - SETAB 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	109.9446	MINGO - SETAB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.9411	GEN641089 2-ENERGY CENTER 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.9394	GEN672306 6-BOUNDARY DAM GENERATOR 6
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	109.936	CHISNEY - HIGHLAND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.9188	GEN562691 1-G15_015_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	109.9146	G15095_T 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	109.9103	DOLET HILLS 345/230KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	109.9087	HIGHLAND - PINK SW 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.9078	GEN659111 2-LELAND OLDS UNIT2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.905	GEN672310 1-POPLAR RIVER GENERATOR 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	109.9042	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0644	109.8855	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	109.877	DRAPER LAKE - SEMINOLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	109.8769	DRAPER LAKE - SEMINOLE 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	109.8723	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	109.8602	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.8594	GEN542951 5-HAWTHORN UNIT #5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.8583	4SIOUX 2 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0565	109.8496	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	109.8416	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	109.8327	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	109.8236	P12:138:WERE:ELPA-SUMN_138::
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	109.8223	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	109.8182	FRANKLIN - PINK SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.8152	GEN563022 1-G15066_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.8037	GEN513601 1-GRECCTG_1 20.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	109.7958	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	109.7905	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	109.7899	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	109.7899	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0417	109.787	DBL-THIS-WWR
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.7855	GEN562892 1-G15048_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.782	GEN645012 2-NEBRASKA CITY 2

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.774	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.774	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0538	109.7662	G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.7619	GEN542956 2-LACYGNE UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	109.7585	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.7551	GEN542957 1-IATAN UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	109.7538	HUGO - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	109.7538	HUGO - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.7493	GEN600006 1-AS KING
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.7451	G1524G1525 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.7451	G1524G1525 345.00 - WICHITA 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	109.7443	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.7377	GEN530690 1-PRWINDG1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	109.7375	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	109.7374	P12:230:AEPW-SPS:SWEETWT6:WHEELER 6
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	109.7373	STLN-DEMARC6 - SWEETWATER 230KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	109.7259	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.7224	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	109.7145	MINGO - RED WILLOW 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	109.7145	MINGO - RED WILLOW 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.7122	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	109.7073	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	109.7063	MIDLTNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.7036	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.6958	P12:138:AEPW:CORNVL4:DUNCAN-4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.6845	GEN620315 1-BIG STONE GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.6804	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.6666	GEN560248 1-G10_003_2 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.6635	GEN532957 1-WAVERGEN1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.636	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	109.6316	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.626	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.626	ASGI1705 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	109.6051	P12:138:WFEC:MSL15
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.602	4OSAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	109.6014	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	109.6014	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.6014	4OSAGEWIND 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.5967	GEN600004 2-PRAIRIE ISLAND G2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.5953	GEN600003 1-PRAIRIE ISLAND G1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.5938	GEN562902 1-G15052_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.5862	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	109.5528	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.5489	GEN562694 1-G15_016_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	109.5405	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	109.5266	LYDIA - WELSH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	109.5266	LYDIA - WELSH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.5133	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.4991	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	109.4846	DBL-BVR-G111
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.4844	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.4832	GEN635213 3-NEAL UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.4809	GEN600000 1-SHERBURNECNTY G1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	109.4773	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.4648	VIOLA 7 345.00 (VIOLA 1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.4616	GEN636641 1-LOUISA UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0484	109.4257	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0484	109.4257	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.4235	GEN600001 2-SHERBURNE CNTY G2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.4213	GEN600005 1-MONTICELLO
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.3774	GEN615002 2-COAL CREEK
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.3498	GEN587333 1-G16-048-GEN10.5200
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	109.3462	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	109.3118	GEN501801 1-DOLET HILLS UNIT1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.3117	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	109.3102	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	109.3072	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.3069	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	109.2975	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	109.2975	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.2943	GEN515483 1-BLKWLWD1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.2828	GEN542955 1-LACYGNE UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.2586	GEN600002 3-SHERBURNE CNTY G3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.2584	GEN635214 4-NEAL UNIT 4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	109.2114	LYDIA - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	109.2114	LYDIA - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.2101	GEN587213 1-G16-032-GEN10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	109.207	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.2007	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.2004	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.1901	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.1816	GEN588303 1-ASGI1705-GEN0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.1616	GEN515622 1-KAYWND11 0.7000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	109.1596	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	109.1499	GEN336821 1-GRAND GULF UNIT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	109.1393	GEN542962 2-IATAN UNIT #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	109.1386	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.1366	GEN301382 1-10SAGEWINDG10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.1294	GEN344225 1-1CAL G1 25.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0564	109.1238	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.1199	GEN515623 1-KAYWND12 0.7000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	109.094	GEN563082 1-G15073_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	109.0908	GEN525562 1-TOLK GEN #2 24 KV
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	109.0851	G15-015T 138.00 - MDRDTP4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	109.0816	P12:138:OKGE:3TERM1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0587	109.0275	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	109.0105	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	109.01	G16-063-TAP 345.00 - HUGO 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	109.0079	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	108.9757	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.9683	GEN640009 1-COOPER NUCLEAR STATION
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.9509	GEN336153 1-WATERFORD UNIT#3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	108.9474	OTTER - WOODRING 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	108.9137	MARSHALL - WOODRING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	108.9098	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.8983	GEN525561 1-TOLK GEN #1 24 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0484	108.8871	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.8835	GEN563182 1-G15083_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	108.8741	G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	108.8681	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.8366	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	108.8256	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	108.8228	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.8132	GEN562479 1-G14_001_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	108.7889	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	108.7858	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.7851	GEN515040 1-SEMINOLE 1G
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.7466	GEN532720 1-CANEYWF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.7396	GEN335831 1-RIVERBEND UNIT#1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	108.7205	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	108.6868	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	108.6865	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	108.6865	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	108.684	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.6715	GEN515042 1-SEMINOLE 3G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0681	108.6667	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0681	108.6667	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	108.6532	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	108.6532	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	108.651	MUSKOGEE - SEMINOLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	108.6499	GEN562882 1-G15047_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	108.646	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	108.646	REDBUD - RIVERSIDE STATION 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	108.6255	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	108.6081	CIMARRON - MATHWSN7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	108.6081	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.6014	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	108.5863	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.5723	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.5598	GEN563052 1-G15069_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.5447	GEN563242 1-G15090_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.5447	GEN587503 1-G73-073-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.5436	GEN562720 1-G15_025_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.5415	GEN562718 1-G15_024_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	108.5221	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	108.5215	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.5214	GEN509416 1-TURK GENERATION
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	108.5042	P12:138:WERE:CRSW-OGE_138::
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	108.5036	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	108.5033	DOVER SW - HENESSEY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.4794	CIMARRON - MINCO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.4683	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0304	108.4604	G16-061-TAP 345.00 - SOONER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	108.4529	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.4445	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0532	108.4183	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	108.3986	GEN515040 1-SEMINOLE 1G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	108.3885	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.3825	GEN533141 1-SLATEGEN1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	108.3746	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.3722	GEN587163 1-G16-022-GEN10.6500
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	108.3678	GEN336821 1-GRAND GULF UNIT
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	108.3635	LACYGNE - STILWELL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	108.3543	DBL-HTCH-OTA
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.3537	GEN515041 1-SEMINOLE 2G
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.3519	GEN501813 1-RODEMACHER UNIT 3

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0641	108.3312	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.3312	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.3297	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.3268	GEN563032 1-G15067_3 0.4180
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	108.3034	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	108.3034	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	108.2945	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.2418	GEN509403 1-PIRKEY GENERATION
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0658	108.2276	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	108.2248	GEN501801 1-DOLET HILLS UNIT1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	108.2237	GEN514643 1-BRKWND11 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.2192	GEN335206 1-NELSON UNIT 6
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0658	108.2122	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0541	108.1907	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0658	108.1849	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	108.1728	COW CREEK - MORRISON 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	108.1553	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0658	108.1493	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	108.1489	GEN515484 1-CHSHMVW1 0.5750
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	108.1472	GEN515479 1-CHSHMVE1 0.5750
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	108.1471	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	108.1471	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	108.1425	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.077	108.1371	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0469	108.1224	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.1198	GEN509406 1-WELSH #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.1196	GEN509404 1-WELSH #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	108.1144	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0524	108.1144	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0658	108.109	DOMES - MOUND ROAD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.1082	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.1082	GEN523972 1-HARRINGTON GEN #2 24 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.1082	GEN523973 1-HARRINGTON GEN #3 24 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.1004	GEN501812 1-RODEMACHER UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	108.0984	P12:138:WFEC:MSL14
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.0923	OTTER - WOODRING 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	108.0853	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.0802	DELL 500 - ESSEX UNIT 2 500KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.0706	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	108.0703	GEN520947 1-HUGO1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	108.0681	DBL-G1524-WI
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	108.0404	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	108.04	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0469	108.0359	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	108.0317	GEN336153 1-WATERFORD UNIT#3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0481	108.03	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	108.0235	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0428	108.023	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0428	108.023	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0428	108.0173	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0428	108.0173	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	108.0094	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	108.0068	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	108.0007	P12:138:OKGE:3TERM11
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9952	GEN527901 1-HOBBS PLANT #1 (CT)
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9952	GEN527902 1-HOBBS PLANT #2 (CT)
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	107.9937	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.979	GEN334440 1-SABINE UNIT 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.977	GEN562611 1-G14_064_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9684	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9465	GEN526332 1-JONES GEN #2 21 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9463	GEN526331 1-JONES GEN #1 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9447	NEW MADRID 161/22.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9333	NEW MADRID 345/22.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.9308	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.9308	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	107.9301	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9119	GEN587387 1-G16-057-GEN20.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9118	GEN587383 1-G16-045-GEN10.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9095	GEN587303 1-G16-045-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9095	GEN587307 1-G16-045-GEN20.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.9069	GEN514910 2-REDBUD GEN
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	107.9003	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	107.9003	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.8987	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0481	107.8985	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	107.8983	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	107.8971	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	107.8971	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	107.8812	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	107.8812	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0445	107.8737	DBL-THIS-WWR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	107.8592	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.8517	GEN514911 2-REDBUD GEN
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.8517	GEN514942 2-REDBUD4G
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	107.8514	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	107.8455	GEN587413 1-G16-061-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.8444	GEN526333 1-JONES GEN #3 21 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	107.8442	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.8201	GEN533124 1-FR2E2WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	107.8198	P12:138:AEPW:OKMULGE4:R.S.S-4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.8133	GEN533126 1-FR2W2WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	107.8075	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	107.8063	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7957	GEN514940 1-REDBUD GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.7899	GEN533123 1-FR2E1WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7899	GEN514900 1-REDBUD2S
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7897	GEN514899 1-REDBUD1S
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7818	GEN335204 1-NELSON UNIT 4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.7807	GEN533125 1-FR2W1WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7788	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7783	GEN336831 1-BAXTER WILSON SES
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.7738	GEN562772 1-G15034_3 0.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.7737	GEN562658 1-G15_001_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	107.7682	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.7653	GEN335831 1-RIVERBEND UNIT#1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7643	GEN334441 1-SABINE UNIT 5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	107.7635	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	107.7634	3TR3AR8EL7EL
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	107.7567	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	107.7516	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	107.7516	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7437	GEN514905 1-REDBUD3S
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7397	P12:069:OKGE:3TERM4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0483	107.7327	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0483	107.7327	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0483	107.7327	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0483	107.7327	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	107.727	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7258	DEWEY - SOUTHARD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7245	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0469	107.7205	KINZE - MCELROY 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.7101	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7095	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.7095	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.7088	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.7088	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	107.707	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	107.707	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.6974	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.6974	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	107.6967	KNIFE 4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.695	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6847	GEN527163 1-MUSTANG GEN #3 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	107.6791	PECULIAR - STILWELL 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	107.6733	KNIFE 4 138.00 - TRYON 4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.6713	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.6713	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6704	GEN527882 1-CUNNINGHAM GEN #2 20 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0534	107.6689	TRYON 4 138.00 - WARWICK 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6663	GEN334071 1-LEWIS CREEK 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6663	GEN334433 1-SABINE UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6613	GEN334070 1-LEWIS CREEK 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6421	GEN525494 1-PLANT X GEN #4 20 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6419	GEN511851 1-COMANCHE #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6408	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6377	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6375	GEN527161 1-MUSTANG GEN #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6375	GEN527162 1-MUSTANG GEN #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6366	GEN337041 1-GERALD ANDRUS
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.6341	GEN514805 1-SOONER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	107.6308	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.628	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.6259	CLEARWATER - VIOLA 4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	107.623	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	107.623	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6226	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	107.6223	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	107.6223	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6211	GEN509409 1-WILKES #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.613	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	107.6112	MCLEROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6093	GEN562587 1-G14_056_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.608	GEN514939 1-HORSESHOE LAKE 8G
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	107.6061	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.601	GEN527884 1-CUNNINGHAM GEN #4 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6009	GEN501811 1-RODEMACHER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.6008	GEN587233 1-G16-037-GEN10.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	107.5991	WEBRE - WELLS 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5984	GEN527883 1-CUNNINGHAM GEN #3 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.5963	DBL-SPRVL-IR
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.596	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.5919	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5884	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5853	GEN336464 1-MICHLOUD UNIT #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	107.5837	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.578	GEN303007 1-1BC2 U2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5764	GEN303006 1-1BC2 U1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	107.574	ROSS TAP - WARWICK 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	107.5728	P12:138:WERE:MURR-MKEC_138P::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	107.5662	P13:069-138:WERE:ELPA_TX-1::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.565	GEN521110 1-ORME1 13.800
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5614	GEN334030 1-FRONTIER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.56	GEN334031 1-FRONTIER UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.558	GEN521111 1-ORME2 13.800
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.556	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.5558	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.5553	GEN562723 1-G15_030_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	107.5503	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.546	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5435	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	107.5417	KINZE - MCELROY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5395	GEN515602 1-KNGFSR12 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0677	107.5385	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0677	107.5385	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	107.5349	EL PASO - FARBER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5336	GEN303008 1-1BC2 U3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5335	FRONTIER - GRIMES 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	107.529	CIMARRON - MATHWSN7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	107.529	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.5286	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.5286	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.5254	GEN509416 1-TURK GENERATION

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	107.5243	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	107.5243	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5182	GEN336170 1-GULF OXY U4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.5125	GEN587483 1-G16-071-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.5109	CRESENT - TWIN LAKES 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	107.5089	GILL ENERGY CENTER SOUTH - VIOLA 4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.5088	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	107.5043	CLEVELAND - SILVER CITY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.5043	P12:138:WFEC:MSL13
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.5038	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.5021	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	107.4984	LINCOLN - ROSS TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	107.4952	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	107.4905	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4895	GEN520811 1-ANADRK4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.4882	P12:138:WFEC:MSL10
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.4856	P12:069:OKGE:3TERM3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	107.4798	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0474	107.4779	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4769	GEN515443 1-MNCOWND1 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	107.476	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	107.4729	P12:138:WERE:CRSW-OGE_138::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4654	GEN524023 1-NICHOLS GEN #3 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0464	107.4635	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0464	107.4615	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.4584	PHAROAH - WETUMKA4 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4569	GEN501910 1-ACADIA UNIT ST1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.454	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	107.451	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4467	GEN523461 1-BLACKHAWK GEN #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4467	GEN523462 1-BLACKHAWK GEN #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4463	GEN336222 1-LITTLE GYPSY UNIT#2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4421	GEN511853 1-COMANCHE #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4419	P12:138:WFEC:MSL09
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.4394	COTTONWOOD CREEK - CRESENT 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4386	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.4381	PARAGON4 138.00 - WETUMKA4 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.4363	PARAGON4 138.00 - TRNCNDACV4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4296	GEN511852 1-COMANCHE #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.425	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	107.4235	LACYGNE - NEOSHO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4227	GEN520812 1-ANADRK5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4226	GEN520813 1-ANADRK6
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4215	GEN336152 1-WATERFORD UNIT#2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4209	GEN336151 1-WATERFORD UNIT#1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.4181	P12:161:AEPW-SWPA:BEAVERS:EROGERS5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4177	P12:161:AEPW:DYESS5:ELMSPRNG:TONTITN5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4175	GEN521112 1-ORME3 13.800
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.416	RODEMACHER 230/22.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4151	GEN562590 1-G14_057_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	107.4106	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	107.4102	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	107.4102	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	107.4094	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	107.4094	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	107.4071	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	107.4052	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.404	OKEENE - WATONGA SW 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	107.4039	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.4001	GEN528501 1-G14_012 24.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.3994	P12:161:AEPW:EROGERS5:ECNTRTN5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3981	GEN515606 1-CANDN11 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3981	GEN515607 1-CANDN12 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.3946	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	107.3856	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.3829	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.3829	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	107.3827	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.3802	ALTOONA - BUTLER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.3801	P13:069-138:WERE:BUTL_TX-1::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.3794	LAYFLD8 500.00 - MOUNT OLIVE 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.3794	LAYFLD8 500.00 - MOUNT OLIVE 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.3783	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3778	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.376	GEN560105 1-G08-22 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	107.3754	P12:138:OKGE:3TERM47
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3715	GEN501823 1-TECHE UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3692	GEN562550 1-G14_040_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.368	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.368	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.3663	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.3663	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.366	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3656	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3656	ST FRANCIS 161/16.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.364	GEN501970 1-EVANGELINE UNIT 7
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3621	GEN337766 1-TRACTEBEL UNIT S1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.3583	CRAIG - WEST GARDNER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	107.3571	KETCH - KETCH TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3561	GEN334432 1-SABINE UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.356	GEN334431 1-SABINE UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3555	GEN563062 1-G15071_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.352	GEN514806 1-SOONER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.3509	GEN525561 1-TOLK GEN #1 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.3487	GEN525562 1-TOLK GEN #2 24 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.3472	NEOSHO - SUB 452 - RIVERTON 161KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.3467	GEN563022 1-G15066_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.3437	BOWMAN - KINGINDT2 69.000 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	107.3422	CROMWELL - TRNCNDACV4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	107.3418	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.3417	ALVA - ALVA 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	107.3416	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3396	GEN587423 1-G16-062-GEN10.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3366	GEN334392 1-EXXON MOBIL IPP 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3327	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3326	GEN334393 1-EXXON MOBIL IPP 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3326	GEN334394 1-EXXON MOBIL IPP 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3302	GEN562602 1-G15_029_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3265	GEN514912 2-REDBUD GEN
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	107.3264	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	107.3263	IMO TAP - MEN TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.3262	KNGINDT2 69.000 - OKRCHET2 69.000 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.326	GEN501972 1-EVANGELINE UNIT 7-2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3259	GEN501971 1-EVANGELINE UNIT 7-1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0571	107.3256	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0571	107.3256	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	107.3253	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	107.3253	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3244	GEN525844 1-ELK_1 118.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3226	ST FRANCIS 2 161/16.0KV TRANSFORMER CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3226	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3196	GEN336242 1-1NMIL ST1 18.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3196	GEN524022 1-NICHOLS GEN #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.3181	DOVER - DOVER SW 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3165	GEN501912 1-ACADIA UNIT CT1B
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3161	GEN501911 1-ACADIA UNIT CT1A
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	107.3156	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	107.3124	4WOODY 138.00 - BRISTOW 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	107.3107	GOLTYTP2 69.000 - IMO 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3072	GEN562270 1-G12-020-2 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	107.3054	FULTON 115 - HOPE 115KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	107.3054	FULTON 115 - HOPE 115KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3049	GEN337764 1-TRACTEBEL UNIT C1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3049	GEN337765 1-TRACTEBEL UNIT C2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.3048	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0496	107.3032	FAIRMONT TAP - WOODRING 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	107.3003	GOLTYTP2 69.000 - HELENA TAP 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	107.2956	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	107.2955	WOODWARD - WWPAR4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.066	107.2928	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.2915	GEN562691 1-G15_015_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.2896	GEN524295 1-SPNSPUR_WND10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.2772	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	107.2436	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	107.2241	MARSHALL - WOODRING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.1913	GEN501813 1-RODEMACHER UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.1888	GEN520947 1-HUGO1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.1824	GEN515041 1-SEMINOLE 2G
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	107.1664	CIMARRON - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.156	GEN515042 1-SEMINOLE 3G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	107.1432	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.1328	GEN509403 1-PIRKEY GENERATION
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	107.1186	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	107.107	GEN562902 1-G15052_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	107.0819	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	107.0814	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	107.0761	GRACEMONT - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	107.04	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.027	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.0101	GEN335206 1-NELSON UNIT 6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	107.005	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.992	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	106.9912	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.9874	GEN509406 1-WELSH #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.9871	GEN509404 1-WELSH #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.031	106.9709	G16-061-TAP 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.9541	GEN514998 1-MCCLAIN UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.9541	GEN514999 1-MCCLAIN UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	106.953	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.9351	GEN334440 1-SABINE UNIT 4

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.9251	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	106.9122	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	106.9116	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	106.8913	P12:138:WFEC:MSL14
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.8879	GEN501812 1-RODEMACHER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0665	106.8868	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	106.8811	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	106.8707	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0665	106.8693	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.8692	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.8692	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	106.8526	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.8359	GEN514936 1-HORSESHOE LAKE 75
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.8195	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0302	106.8042	G16-061-TAP 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.7947	GEN515000 1-MCCLAIN UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	106.7932	GEN562429 1-G13-029 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0665	106.7904	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.7729	P12:069:OKGE:3TERM4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	106.7671	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0665	106.7661	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	106.7574	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.7556	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	106.7539	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.7535	GEN336831 1-BAXTER WILSON SES
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0594	106.7261	RANCHR7 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	106.7196	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	106.7166	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.7151	DELL 500 - ESSEX UNIT 2 500KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0665	106.7058	DOMES - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	106.697	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.6914	GEN334441 1-SABINE UNIT 5

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.6778	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.6778	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.672	GEN300015 1-1SGPDEL 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0767	106.6551	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	106.6549	MULLERGEN - SPEARVILLE 230KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	106.6549	MULLERGEN - SPEARVILLE 230KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6478	GEN546698 1-QN GEN2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	106.6454	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0432	106.6453	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0432	106.6453	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0432	106.6453	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6439	FLATRDG3 - THISTLE4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6439	FLATRDG3 - THISTLE4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6437	THISTLE7 345.00 (THISTLE T1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6433	GEN659018 1-G14_003IS_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.6423	GEN514910 2-REDBUD GEN
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.642	GEN514911 2-REDBUD GEN
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.642	GEN514942 2-REDBUD4G
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0459	106.6406	CWBOYHT4 138.00 - FNTANTP4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.64	GEN300012 1-HOLDEN UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.64	GEN300013 1-HOLDEN UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6393	GEN659031 1-G12_014IS_4 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	106.6361	FLATRDG3 - HARPER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	106.6361	FLATRDG3 - HARPER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	106.6339	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6323	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6323	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0459	106.6311	CWBOYHT4 138.00 - MARLAND TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6273	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6273	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6269	GEN659289 1-DAYCNTYWND W0.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.625	GEN600067 9-HIGH BRIDGE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.622	GEN335204 1-NELSON UNIT 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	106.6214	DOLET HILLS 345/230KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	106.6201	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6165	GEN549890 1-SOUTHWEST 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.6142	GEN514912 2-REDBUD GEN
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6142	GEN659354 1-DEERCREK STG18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	106.6141	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.614	GEN659353 1-DEERCREK CTG18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.6051	GEN525845 1-ELK_2 1 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.6045	GEN525844 1-ELK_1 118.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.6039	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	106.6014	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	106.6014	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	106.5996	CHISNEY - CLARKSVILLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	106.5979	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.597	MCCLAIN - STHLAKE4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5939	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5937	GEN300010 1-ST FRANCIS UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5915	GEN629072 4-LANSING GENERATOR FOR UNITS NO4 EIA CODE 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0477	106.5896	P12:345:SPS:J07.1.FINN.HITCH
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	106.583	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	106.583	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5821	GEN530594 1-SMKYP1G1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5819	GEN300020 1-1-CHOTCT4 16.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5814	GEN300021 1-1-CHOTCT5 16.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5809	GEN300032 1-CHOUTEAU CTG 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5809	GEN300033 1-CHOUTEAU STG 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5791	SARA - STHLAKE4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	106.5783	OVEXFRMCCOVE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5705	GEN337041 1-GERALD ANDRUS
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	106.5686	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	106.5675	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	106.5657	4LUTHERD 138.00 - LUTHER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	106.5653	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.565	GEN300024 1-1-CHOTST6 16.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5649	GEN300031 1-CHOUTEAU CTG 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	106.5623	TUPELO - TUPELO TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5611	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	106.5583	LACYGNE - STILWELL 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	106.5581	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.558	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	106.5544	KILDARE4 - NWRKAT4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5542	GEN300011 1-ST FRANCIS UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5528	GEN345671 2-1RUSH G2 18.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0459	106.552	MARLAND TAP - OSAGE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5514	GEN345670 1-1RUSH G1 18.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5481	QUAIL CREEK - SKYLINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	106.5469	COW CREEK - MORRISON 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	106.5469	CHISNEY - HIGHLAND 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5463	GEN587387 1-G16-057-GEN20.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5461	GEN587383 1-G16-045-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5439	GEN587307 1-G16-045-GEN20.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5438	GEN587303 1-G16-045-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5432	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5432	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5409	GEN505432 1-SIKESTON
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5408	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5398	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	106.5359	P12:138:AECI:STROUD-LUTHER
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5314	GEN657749 1-YOUNG 1 GENERATOR
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	106.53	P12:138:WFEC:MSL03
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5252	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	106.5238	HOLCOMB - SETAB 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	106.5238	HOLCOMB - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5232	GEN334433 1-SABINE UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	106.5178	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5166	GEN645025 5-NORTH OMAHA 5

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	106.5159	GEN514805 1-SOONER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5156	GEN542954 3-MONTROSE UNIT #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5129	MORGAN - MUSTANG 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.5118	CIMARRON - SARA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5102	GEN514940 1-REDBUD GEN
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0478	106.5088	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0478	106.5088	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	106.5073	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5039	GEN514905 1-REDBUD3S
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5032	GEN514899 1-REDBUD1S
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.5032	GEN514900 1-REDBUD2S
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4953	MORGAN - XEROX 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4953	FAIRVIEW - OKEENE 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4923	CZECH HALL - XEROX 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	106.4857	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	106.4814	C_CITY_138 138.00 - SALT PLAINS 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4805	GEN527166 1-MUSTANG_6 118.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	106.4789	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4736	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	106.4735	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	106.4716	HIGHLAND - PINK SW 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0477	106.4713	Hitchland Interchange - WALKTAP7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0477	106.4713	Hitchland Interchange - WALKTAP7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.4642	GEN549893 2-SOUTHWEST 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	106.4636	MINGO - SETAB 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	106.4636	MINGO - SETAB 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	106.4618	P12:138:WERE:ELPA-SUMN_138::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.4616	GEN641089 2-ENERGY CENTER 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.4613	GEN659110 1-LELAND OLDS UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	106.4605	DBL-SPRVL-IR
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.4584	GEN681522 3-GENOA 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	106.4551	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.4532	THOMAS HILL 161/22.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	106.4518	MIDLTNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.449	GEN590010 1-ERCOT EQUIVALENCE

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.443	CLAY BOSWELL 230/20.9KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4366	CIMARRON - CZECH HALL 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4359	GEN336464 1-MICHOUUD UNIT #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4329	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	106.4309	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.429	4SIOUX 1 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.048	106.4281	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.4278	GEN344895 2-1LAB G2 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	106.4254	P12:138:AEPW:OKMULGE4:R.S.S-4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.4246	GEN590011 2-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4226	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	106.4177	G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	106.4157	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.4143	GEN300001 1-THOMAS HILL UNIT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0659	106.4115	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.4111	GEN344896 3-1LAB G3 20.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.4103	GEN344897 4-1LAB G4 20.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.41	GEN344894 1-1LAB G1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4088	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4088	GEN523972 1-HARRINGTON GEN #2 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4088	GEN523973 1-HARRINGTON GEN #3 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.4048	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	106.4026	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	106.4026	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.3968	GEN672321 1-SHAND GENERATOR 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3927	GEN526333 1-JONES GEN #3 21 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3927	GEN526334 1-JONES 4 116.500
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	106.3925	GEN514806 1-SOONER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3883	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	106.3854	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	106.3854	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.3837	DEWEY - SOUTHARD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.3836	GEN672311 2-POPLAR RIVER GENERATOR 2

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.3835	GEN672310 1-POPLAR RIVER GENERATOR 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	106.3778	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.3768	GEN672306 6-BOUNDARY DAM GENERATOR 6
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.3741	GEN562892 1-G15048_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	106.3707	P12:069:OKGE:3TERM3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3652	GEN509409 1-WILKES #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.363	GEN681542 6-JP MADGETT
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3616	GEN527901 1-HOBBS PLANT #1 (CT)
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3616	GEN527902 1-HOBBS PLANT #2 (CT)
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	106.3597	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	106.3597	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	106.3577	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	106.3523	MINGO - RED WILLOW 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	106.3523	MINGO - RED WILLOW 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3522	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3481	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	106.3383	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.3376	GEN513602 1-GRECSTG_1 17.500
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3335	GEN334071 1-LEWIS CREEK 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.3307	GEN530690 1-PRWINDG1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3286	GEN514935 1-HORSESHOE LAKE 6G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3276	GEN334070 1-LEWIS CREEK 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3274	GEN509398 1-KNOXLEE #5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3254	GEN526332 1-JONES GEN #2 21 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3252	GEN526331 1-JONES GEN #1 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	106.3218	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0533	106.3195	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.3182	GEN547649 1-ASBURY UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	106.3169	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.3123	GEN511851 1-COMANCHE #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0557	106.3075	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2907	GEN303007 1-1BC2 U2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.289	GEN303006 1-1BC2 U1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2839	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2838	GEN336222 1-LITTLE GYPSY UNIT#2

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	106.2801	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	106.2776	HUGO - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	106.2776	HUGO - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.048	106.2772	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2771	GEN513601 1-GRECCTG_1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2745	GEN501811 1-RODEMACHER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	106.2701	4MEMORAL 138.00 - LUTHER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0458	106.2688	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0458	106.267	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	106.2566	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2525	P12:138:AEPW:CORNVL4:DUNCAN-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	106.2492	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	106.2492	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.054	106.248	P12:138:OKGE:3TERM11
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2479	GEN509394 1-FLINT CREEK
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2476	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2476	ASGI1705 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2401	GEN336152 1-WATERFORD UNIT#2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2398	GEN336151 1-WATERFORD UNIT#1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2365	GEN661015 1-COYOTE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2347	GEN303008 1-1BC2 U3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	106.2277	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	106.2276	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0547	106.2272	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	106.2226	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	106.2226	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2175	4OSAGEWIND 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2171	4OSAGEWIND 138.00 4REMINGTON 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2169	GEN562587 1-G14_056_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2165	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2148	GEN336170 1-GULF OXY U4

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2145	GEN512688 2-GRDA1 GSU2 22
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	106.2099	FRANKLIN - PINK SW 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.2069	GEN509408 1-WILKES #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2033	GEN620315 1-BIG STONE GEN
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	106.2007	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2003	G1524G1525 345.00 - WICHITA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.2003	G1524G1525 345.00 - WICHITA 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1988	GEN334030 1-FRONTIER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1976	GEN334031 1-FRONTIER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	106.1944	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	106.194	LYDIA - WELSH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	106.194	LYDIA - WELSH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.192	P12:161:AEPW:DYESS5:ELMSPRNG:TONTITN5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1882	GEN587233 1-G16-037-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.1763	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	106.1735	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	106.1735	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	106.1717	NOEL_SW 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	106.1715	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	106.1715	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	106.1712	P12:138:AECI:LUTHER-JONES
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	106.1673	EL PASO - FARBER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.1662	GEN657748 1-YOUNG 2 GENERATOR
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.1655	GEN560248 1-G10_003_2 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.1639	GEN532957 1-WAVERGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1599	GEN515225 1-MUSKOGEE 5G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	106.1588	P13:069-138:WERE:ELPA_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1567	GEN515226 1-MUSKOGEE 6G
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	106.1558	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1525	GEN521110 1-ORME1 13.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1522	GEN520812 1-ANADRK5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1522	GEN520813 1-ANADRK6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1516	GEN515223 1-MUSKOGEE 4G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1481	FRONTIER - GRIMES 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1463	GEN511847 1-SOUTHWESTERN STATION #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.1451	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.144	GEN546702 1-NM GEN N1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	106.1422	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	106.1404	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1377	GEN520811 1-ANADRK4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1364	GEN515602 1-KNGFSR12 0.7000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	106.1352	PECULIAR - STILWELL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1348	GEN514883 1-SPRING CREEK UNIT 3 AND 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1338	GEN527163 1-MUSTANG GEN #3 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	106.1327	3TR3AR8EL7EL
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	106.1327	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1317	GEN514882 1-SPRING CREEK UNIT 1 AND 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	106.126	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.1223	GEN511840 1-NORTHEASTERN STATION #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	106.1221	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	106.1221	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	106.1221	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	106.1221	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1219	GEN527882 1-CUNNINGHAM GEN #2 20 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.117	GEN600004 2-PRAIRIE ISLAND G2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.1154	GEN600003 1-PRAIRIE ISLAND G1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.1119	GEN501910 1-ACADIA UNIT ST1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.0994	GEN600006 1-AS KING
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0944	GEN525494 1-PLANT X GEN #4 20 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0925	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	106.0924	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0893	GEN514890 1-SMITH 1G
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.089	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	106.083	P12:161:AEPW:EROGRS5:ECNTRTN5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0771	GEN511853 1-COMANCHE #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.0749	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	106.0691	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	106.0691	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	106.0674	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	106.0674	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0673	GEN527161 1-MUSTANG GEN #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0667	GEN511849 1-SOUTHWESTERN STATION #4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0667	GEN511850 1-SOUTHWESTERN STATION #5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0651	GEN515443 1-MNCOWND1 0.7000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.062	GEN527164 1-MUSTANG GEN #4 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0613	GEN511852 1-COMANCHE #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0611	GEN334431 1-SABINE UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0611	GEN334432 1-SABINE UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0592	GEN527165 1-Mustang Gen #5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0587	GEN527162 1-MUSTANG GEN #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	106.0523	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	106.0523	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	106.0517	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	106.0517	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.0511	GEN300006 1-NEW MADRID UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0476	GEN587322 1-8GEN-2016-4713.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0476	GEN587323 1-9GEN-2016-4713.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0476	GEN587324 1-10GEN-2016-413.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0476	GEN587325 1-11GEN-2016-413.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0476	GEN587326 1-12GEN-2016-413.800
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.0452	GEN300007 1-NEW MADRID UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	106.0434	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	106.0434	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0491	106.0433	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0491	106.0433	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0428	GEN527884 1-CUNNINGHAM GEN #4 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0419	GEN527883 1-CUNNINGHAM GEN #3 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	106.0399	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	106.0399	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0522	106.0396	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.038	GEN337766 1-TRACTEBEL UNIT S1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	106.0368	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.0368	GEN300002 1-THOMAS HILL UNIT 2

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0672	106.0326	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0672	106.0326	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	106.0286	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	106.0274	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.053	106.0265	CLEVELAND - SILVER CITY 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0235	GEN521111 1-ORME2 13.800
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.021	GEN635213 3-NEAL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	106.0105	RODEMACHER 230/22.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	106.0085	GEN562694 1-G15_016_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.9992	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.998	GEN562590 1-G14_057_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	105.9966	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.9955	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9954	GEN521112 1-ORME3 13.800
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.9954	GRACEMONT - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9946	GEN501970 1-EVANGELINE UNIT 7
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.9885	CRESENT - TWIN LAKES 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	105.9849	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	105.9849	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	105.9833	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9828	GEN515606 1-CANDN11 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9828	GEN515607 1-CANDN12 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.9758	P12:161:AEPW-SWPA:BEAVERS:EROGERS5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9746	GEN338388 1-1PLUM PT U1 23.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	105.9732	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9715	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	105.9661	P12:138:WERE:CRSW-SUMN_138::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	105.9651	G15095_T 138.00 - ROSE VALLEY 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.964	GEN336221 1-LITTLE GYPSY UNIT#1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	105.9633	FAIRMONT TAP - WOODRING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.962	GEN337764 1-TRACTEBEL UNIT C1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.962	GEN337765 1-TRACTEBEL UNIT C2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9592	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	105.9585	WEBRE - WELLS 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9576	GEN336242 1-1NMIL ST1 18.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	105.9551	CIMARRON - DRAPER LAKE 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9513	GEN334392 1-EXXON MOBIL IPP 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	105.9505	CRESWELL - OXFORD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0517	105.9497	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9493	GEN334393 1-EXXON MOBIL IPP 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9493	GEN334394 1-EXXON MOBIL IPP 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.9492	GEN636641 1-LOUISA UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9489	GEN501972 1-EVANGELINE UNIT 7-2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9488	GEN501971 1-EVANGELINE UNIT 7-1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9472	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	105.9434	LACYGNE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.941	SABINE 230/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9406	GEN501912 1-ACADIA UNIT CT1B
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.9405	GEN587333 1-G16-048-GEN10.5200
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9402	GEN509407 1-WILKES #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9401	GEN501911 1-ACADIA UNIT CT1A
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9364	GEN337757 1-DUKE HOTSPRINGS STG1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9355	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	105.9352	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.9343	GEN659111 2-LELAND OLDS UNIT2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9338	GEN336446 1-MICHOUD UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	105.9318	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0476	105.9312	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9261	GEN501823 1-TECHE UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.9243	GEN600001 2-SHERBURNE CNTY G2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.9236	GEN600005 1-MONTICELLO
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0525	105.9216	OXFORD - SUMNER 4 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0512	105.9205	KETCH - KETCH TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9204	GEN563062 1-G15071_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.918	GEN337430 1-PERYVILLE UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9174	GEN337428 1-PERYVILLE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9143	GEN503909 1-FULTONU1 1 16.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	105.9122	CUSHING - GRNWOOD4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9105	GEN509393 S1-ARSENAL HILL GENS #4 (STALL)
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9084	P12:138:WFEC:MSL13
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9057	GEN524023 1-NICHOLS GEN #3 22 KV

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	105.9044	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	105.9044	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.9041	GEN615001 1-COAL CREEK
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.9036	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.901	GEN615002 2-COAL CREEK
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.9008	P12:138:AEPW:MOHAWK4:T.NO--4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8997	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8997	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0526	105.8991	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0516	105.8989	FPL SWITCH - WOODWARD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	105.8966	7LUTESVIL 345.00 - 7ST FRANCO 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.892	GEN336241 1-1NMIL CT2 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8919	GEN336240 1-1NMIL CT1 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8883	GEN514897 1-SMITH 1S
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0554	105.8881	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0554	105.8881	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8869	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8863	GEN506754 1-LEBROCK STEAM 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8857	P12:69:AEPW:NROGERS2:ECNTRTN2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8849	GEN335612 1-WILLOW GLENN UNIT#2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8848	GEN335571 1-CARVILLE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8846	GEN335570 1-CARVILLE CTG
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	105.884	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	105.884	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8809	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.8793	ALTOONA - BUTLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.8788	P13:069-138:WERE:BTUL_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8768	GEN336167 1-GULF OXY U1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8768	GEN336168 1-GULF OXY U2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8768	GEN336169 1-GULF OXY U3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8766	P12:138:WFEC:MSL10
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	105.8753	OKEENE - WATONGA SW 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8751	PHAROAH - WETUMKA4 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8743	P12:138:WFEC:MSL09
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.8729	COTTONWOOD CREEK - CRESENT 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	105.8714	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	105.8708	BENTON - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	105.8702	FULTON 115 - HOPE 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	105.8702	FULTON 115 - HOPE 115KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8695	GEN515483 1-BLKWLWD1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8692	GEN338443 1-PANDA S1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8684	GEN337432 1-PERYVILLE UNIT #5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.867	P12:138:AEPW:YARCH-S4:T.S.E.-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8661	SABINE 230/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8659	P12:138:AEPW:BA_71ST4:T.S.E.-4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8658	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8608	GEN562550 1-G14_040_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	105.8602	CRAIG - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8599	GEN509392 G2-ARSENAL HILL GENS #3 (STALL)
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	105.8593	ALVA - ALVA 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8592	GEN563272 1-G15093_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8586	GEN521101 1-ANADRK7
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8586	GEN521102 1-ANADRK8
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	105.8573	8WNEWMADRID 500.00 - DELL 500 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.857	GEN560105 1-G08-22 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0528	105.8561	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.8554	5LOCSTGV - MAID 161KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8541	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8524	PARAGON4 138.00 - WETUMKA4 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8516	GEN509391 G1-ARSENAL HILL GENS #2 (STALL)
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8514	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8513	GEN338500 1-MCCLELLAN UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8508	PARAGON4 138.00 - TRNCNDACV4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8491	GEN600000 1-SHERBURNECNTY G1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.8485	CONCORDIA - ELM CREEK 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.8485	CONCORDIA - ELM CREEK 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.8483	5CDRCRST 161.00 - 5LOCSTGV 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.8476	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.8476	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8466	MC NIEL 500/115KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.8461	P12:161:GRDA:MAID-CEDARCREST
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.845	GEN335644 1-EXXON UNIT5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	105.8433	P12:138:GRDA:STILLWATER-VALLEY
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.8433	GEN562602 1-G15_029_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.843	GEN303024 1-1G3INTHB 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.843	GEN303026 1-1G4INTHB 18.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8384	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.8384	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	105.8223	LYDIA - VALLIANTE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	105.8223	LYDIA - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	105.7846	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	105.7846	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.7839	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.7803	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.7772	GEN587213 1-G16-032-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	105.7755	G16-063-TAP 345.00 - HUGO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.7641	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.7528	GEN588303 1-ASGI1705-GEN0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	105.7404	GEN587413 1-G16-061-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.7394	GEN515622 1-KAYWND11 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	105.7203	DBL-HTCH-OTA
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.7087	GEN515623 1-KAYWND12 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.7	GEN301382 1-10SAGEWINDG10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.6483	GEN635214 4-NEAL UNIT 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0464	105.6478	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.644	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	105.5977	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.5945	GEN563082 1-G15073_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.5597	GEN600002 3-SHERBURNE CNTY G3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	105.5265	GEN515484 1-CHSHMVW1 0.5750
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	105.5248	GEN515479 1-CHSHMVE1 0.5750
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.5147	GEN344225 1-1CAL G1 25.000

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	105.485	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.4676	GEN563182 1-G15083_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	105.4105	GEN562611 1-G14_064_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.3129	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	105.3114	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0492	105.3114	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.2927	GEN562479 1-G14_001_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	105.283	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.2501	GEN532720 1-CANEYWF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	105.2106	BROKEN ARROW NORTH - SOUTH TAP - ONETA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.2098	GEN520998 1-MORLND3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.2052	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.2047	GEN529252 1-OMPA-KAW
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.2028	GEN543106 1-BULL CREEK COMBUSTION TURBINE #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.2021	GEN640028 1-COLUMCOGENERATION
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.2008	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1958	GEN300020 1-1CHOTCT4 16.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1955	GEN543108 3-BULL CREEK COMBUSTION TURBINE #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1955	GEN543109 4-BULL CREEK COMBUSTION TURBINE #4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1954	GEN300021 1-1CHOTCT5 16.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1949	GEN300032 1-CHOUTEAU CTG 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1949	GEN300033 1-CHOUTEAU STG 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1945	P12:138:OKGE:3TERM21
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1939	GEN543107 2-BULL CREEK COMBUSTION TURBINE #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1932	GEN640019 1-SHELDON STATION UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.1929	P12:138:WFEC:MSL08
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1919	GEN600047 1-MECCT1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1918	GEN539677 3-A. M. MULLERGEN GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1906	P12:138:OKGE:3TERM14
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	105.1905	KEO EHV - WHITE BLUFF 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.19	LONEOAK - NORTHWEST 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	105.1899	4WARWICK 138.00 - STROUD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	105.1876	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	105.1876	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0459	105.1855	CWBOYHT4 138.00 - FNTANTP4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1839	GEN532671 1-TECUMSEH ENERGY CENTER UNIT 7
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1819	GEN300024 1-1-CHOTST6 16.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1818	GEN300010 1-ST FRANCIS UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1817	GEN300031 1-CHOUTEAU CTG 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.1815	UNITED CLAY - WEWOKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	105.1811	DOLET HILLS 345/230KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1786	P12:138:AEPW:112GORE4:L.E.S.-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	105.1777	MINGO - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	105.1777	MINGO - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	105.1774	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.1768	P12:138:AEPW-OGE:WELET4:MAUD 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	105.1756	7SPORTSMAN - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	105.1753	G16-037-TAP 345.00 - GRACEMONT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1712	EARLSBORO 4138.00 - FIXICO TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.171	BAXTER WILSON SES - RAY BRASWELL SES 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0459	105.1707	CWBOYHT4 138.00 - MARLAND TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0518	105.1705	7MCCREDIE 345.00 - 7OVERTON 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1688	GEN300012 1-HOLDEN UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1688	GEN300013 1-HOLDEN UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	105.1674	HOLCOMB - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	105.1674	HOLCOMB - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1658	RCDC EAST 4230.00 - RED CEDAR DC 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1656	GEN635691 1-GREATER DES MOINES ENERGY CENTERGT1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1656	GEN635692 2-GREATER DES MOINES ENERGY CENTERGT2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1653	GEN659018 1-G14_003IS_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1652	P12:230:UMZB:# 112 #: NU IN SD. NU-RCDC & DRY CREEK XFMR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.1649	P12:138:OKGE:3TERM10
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	105.1641	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	105.1628	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.1558	HAZEL JCT - UNITED CLAY 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	105.155	HUGO - VALLIANT 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	105.155	HUGO - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1537	P12:69:AEPW:L.E.S.-2:LAW WC2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1531	FLATRDG3 - THISTLE4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1531	FLATRDG3 - THISTLE4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1531	THISTLE7 345.00 (THISTLE T1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1477	GEN645033 3-SARPY COUNTY 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	105.1463	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1432	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1409	GEN541170 4-LAKERD#4 13.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1405	7CALAWY 1 345.00 345/25.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	105.1385	TUPELO - TUPELO TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1359	HAMMETT TAP - LINCOLN 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1355	GEN659289 1-DAYCNTYWND W0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	105.1351	ROSS TAP - WARWICK 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.1336	QUAIL CREEK - SKYLINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1325	GEN645024 4-NORTH OMAHA 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1307	GEN657749 1-YOUNG 1 GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.13	CLARKSVILLE - HAZEL JCT 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1281	EARLSBORO 4138.00 - MAUD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1281	EARLSBORO 4138.00 - MAUD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1264	GEN600067 9-HIGH BRIDGE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1248	GEN300011 1-ST FRANCIS UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1233	GEN629069 1-EMERY STEAM TURBINE 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1221	GEN539670 4-JUDSON LARGE GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	105.1185	4LUTHERD 138.00 - 4WARWICK 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0391	105.1171	DBL-G1151-TG
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1162	GEN505432 1-SIKESTON
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	105.116	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	105.116	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.1125	CIMARRON - CZECH HALL 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1092	P12:138:AEPW:SHERID4:112GORE4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0459	105.1087	MARLAND TAP - OSAGE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1086	GEN635693 3-GREATER DES MOINES ENERGY CENTER ST
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1084	GEN549890 1-SOUTHWEST 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1068	GEN541165 1-SHARPR#1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1068	GEN541166 2-SHARPR#2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	105.1059	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	105.1058	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	105.1058	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.1028	GEN629072 4-LANSING GENERATOR FOR UNITS NO4 EIA CODE 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0983	GEN344895 2-1LAB G2 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	105.0944	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.094	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	105.0896	LINCOLN - ROSS TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.0891	P12:138:WFEC:MSL03
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0551	105.089	COTTONWOOD CREEK - PINE ST 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0886	GEN542961 6-HAWTHORN COMBUSTION TURBINE #6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	105.0857	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	105.0857	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0849	GEN344896 3-1LAB G3 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0836	GEN344894 1-1LAB G1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0834	GEN344897 4-1LAB G4 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	105.069	4LUTHERD 138.00 - LUTHER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.069	GEN645011 1-NEBRASKA CITY 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0666	GEN546698 1-QN GEN2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0656	GEN659354 1-DEERCREK STG18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0654	GEN659353 1-DEERCREK CTG18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.0632	CHISNEY - CLARKSVILLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0626	GEN590010 1-ERCOT EQUIVALENCE
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.0626	GEN563242 1-G15090_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.0626	GEN587503 1-G73-073-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	105.062	8HOLND BTM% 500.00 - KEO EHV 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.0618	GEN562720 1-G15_025_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.0604	GEN562718 1-G15_024_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0596	CLAY BOSWELL 230/20.9KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.0581	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.0572	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	105.0572	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.0556	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0514	105.0546	GEN587463 1-G16-068-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0514	PLUM POINT 500/23.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0418	P12:69: AEPW-OMPA:SNYDER-2:ALTUSJT2:OMALTUS2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0416	GEN590011 2-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0486	105.039	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0486	105.039	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0387	GEN547656 1-STATE LINE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0374	GEN547657 1-STATE LINE UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0346	GEN542967 9-HAWTHORN UNIT #9
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0331	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0306	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	105.0227	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	105.022	CHISNEY - HIGHLAND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0485	105.0161	CIMARRON - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	105.0132	DBL-BVR-G111
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0061	GEN532724 1-EVANS ENERGY CENTER GAS TURBINE 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0046	GEN672321 1-SHAND GENERATOR 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	105.0025	OVEXFRMCCOVE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0022	GEN672310 1-POPLAR RIVER GENERATOR 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	105.0022	GEN672311 2-POPLAR RIVER GENERATOR 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0515	104.9932	P12:138:AEI:STROUD-LUTHER
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.9932	GEN563052 1-G15069_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	104.992	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	104.9905	G16-063-TAP 345.00 - HUGO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	104.9876	G1524G1525 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	104.9876	G1524G1525 345.00 - WICHITA 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9871	GEN531447 1-HOLCOMB GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9859	GEN672306 6-BOUNDARY DAM GENERATOR 6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9858	GEN532723 1-EVANS ENERGY CENTER GAS TURBINE 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0503	104.9816	8BHAM STEEL 500.00 - WEST MEMPHIS 500 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	104.9816	LYDIA - VALLIANT 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	104.9816	LYDIA - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9794	P12:138:AEPW:DUNCAN-4:L.E.S.-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	104.9785	FAIRVIEW - OKEENE 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	104.9685	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.9674	HIGHLAND - PINK SW 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	104.961	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9553	GEN513602 1-GRECSTG_1 17.500
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	104.9553	GEN562429 1-G13-029 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.9538	GEN587163 1-G16-022-GEN10.6500
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.9538	GEN645012 2-NEBRASKA CITY 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	104.9499	NOEL_SW 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9491	GEN549893 2-SOUTHWEST 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9472	GEN681522 3-GENOA 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9466	GEN300001 1-THOMAS HILL UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	104.946	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9429	GEN645041 1-CASS COUNTY 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9408	GEN645042 2-CASS COUNTY 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	104.936	CHISHOLM6 230.00 - SWEETWATER 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.915	GEN562892 1-G15048_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	104.9107	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9079	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.9079	GEN542953 2-MONTROSE UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.9053	GEN563032 1-G15067_3 0.4180
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	104.9015	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	104.9	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.8889	GEN533141 1-SLATEGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8807	GEN542954 3-MONTROSE UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8779	GEN659110 1-LELAND OLDS UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8707	GEN532734 1-GILL ENERGY CENTER UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8698	GEN532733 1-GILL ENERGY CENTER UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8687	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	104.8686	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8641	GEN541162 1-ARIES STEAM TURBINE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8636	GEN509394 1-FLINT CREEK
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8606	GEN645025 5-NORTH OMAHA 5

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8589	4SIOUX 1 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	104.8572	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.8552	GEN514643 1-BRKWND11 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8484	4OSAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8444	GEN661015 1-COYOTE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.841	GEN641089 2-ENERGY CENTER 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8403	GEN547649 1-ASBURY UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.8323	GEN681542 6-JP MADGETT
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0545	104.8295	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.8274	FRANKLIN - PINK SW 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.782	GEN657748 1-YOUNG 2 GENERATOR
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.7517	GEN542951 5-HAWTHORN UNIT #5
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	104.7497	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.7481	GEN640009 1-COOPER NUCLEAR STATION
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	104.7432	CHISHOLM7 345.00 - G16-037-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.7195	GEN560248 1-G10_003_2 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.7185	GEN532957 1-WAVERGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.7062	GEN511840 1-NORTHEASTERN STATION #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.7035	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.698	GEN532742 5-EMPORIA ENERGY CENTER UNIT 5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6963	GEN512688 2-GRDA1 GSU2 22
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6938	GEN300006 1-NEW MADRID UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6935	GEN532743 6-EMPORIA ENERGY CENTER UNIT 6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6935	GEN532744 7-EMPORIA ENERGY CENTER UNIT 7
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6888	GEN620315 1-BIG STONE GEN
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6833	GEN300007 1-NEW MADRID UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0519	104.6678	G15095_T 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6637	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6624	GEN529201 1-OMCDLEC1 13.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6503	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	104.63	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6112	GEN546702 1-NM GEN N1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0491	104.6065	DELAWARE - NORTHEAST STATION 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0491	104.6065	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.6007	GEN513601 1-GRECCTG_1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.598	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	104.5952	DBL-HTCH-OTA
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0425	104.5943	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0501	104.5843	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.5826	GEN300002 1-THOMAS HILL UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.5653	GEN600004 2-PRAIRIE ISLAND G2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.5636	GEN600003 1-PRAIRIE ISLAND G1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.5602	GEN300003 1-THOMAS HILL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	104.5538	4MEMORAL 138.00 - LUTHER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.551	GEN600006 1-AS KING
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0491	104.5482	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0491	104.5482	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.5328	GEN562694 1-G15_016_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.5191	GEN587333 1-G16-048-GEN10.5200
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	104.5056	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.4891	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.4744	GEN587213 1-G16-032-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0481	104.4679	OTTER - WOODRING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.4596	GEN600005 1-MONTICELLO
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.4595	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	104.4593	P12:138:AECI:LUTHER-JONES
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0536	104.4582	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0507	104.4513	CHISHOLM7 345.00 (CHISHOLM) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.4341	GEN515483 1-BLKWLWD1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0511	104.4335	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.4284	GEN636641 1-LOUISA UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.421	GEN635213 3-NEAL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.4125	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	104.3908	P12:230:AEPW:ELKCITY6:SWEETWT6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.3903	GEN615001 1-COAL CREEK
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.3901	GEN532721 1-EVANS ENERGY CENTER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.3887	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.3886	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.3838	GEN615002 2-COAL CREEK
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.3805	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.3803	GEN542956 2-LACYGNE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.3754	GEN532725 1-EVANS ENERGY CENTER GAS TURBINE 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.3751	GEN542957 1-IATAN UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.3708	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.3614	GEN588303 1-ASGI1705-GEN0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	104.3556	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	104.3556	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.3509	GEN533124 1-FR2E2WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.3465	GEN600001 2-SHERBURNE CNTY G2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.3447	GEN533126 1-FR2W2WF1 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	104.3379	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.3368	GEN515622 1-KAYWND11 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0483	104.336	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0483	104.336	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.321	GEN533123 1-FR2E1WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.3176	GEN515623 1-KAYWND12 0.7000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.3138	GEN301382 1-10SAGEWINDG10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.3129	GEN533125 1-FR2W1WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.2945	GEN562772 1-G15034_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.2934	GEN562658 1-G15_001_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	104.2896	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	104.2891	P12:230:AEPW-SPS:SWEETWT6:WHEELER 6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0505	104.2888	STLN-DEMARC6 - SWEETWATER 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0458	104.2768	G15-015T 138.00 - MDRDTP4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0497	104.2754	P12:138:OKGE:3TERM2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	104.2743	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0521	104.2743	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.2609	GEN600000 1-SHERBURNECNTY G1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.2561	GEN344225 1-1CAL G1 25.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.2467	P12:138:AEPW:CORNVL4:DUNCAN-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.2108	GEN659111 2-LELAND OLDS UNIT2

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.1619	GEN563182 1-G15083_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.1393	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.1289	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	104.1031	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	104.1	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.0921	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.0921	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.0556	GEN562723 1-G15_030_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.0482	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	104.034	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.057	104.0306	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	104.0272	GEN563082 1-G15073_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	104.0071	CIMARRON - MATHWSN7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0502	104.0071	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	104.0064	GEN587483 1-G16-071-GEN10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0329	104.0008	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0493	103.9992	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	103.9838	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.9787	GEN635214 4-NEAL UNIT 4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0296	103.975	G16-061-TAP 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.9333	GEN600002 3-SHERBURNE CNTY G3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	103.882	GEN542962 2-IATAN UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	103.8676	GEN562691 1-G15_015_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.8668	GEN532720 1-CANEYWF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0506	103.8539	G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0485	103.8444	GRACEMONT - MINCO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	103.7969	GEN563022 1-G15066_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.7066	GEN562479 1-G14_001_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.052	103.7061	DBL-G1524-WI
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.7059	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	103.7019	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.6604	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.6255	GEN635023 3-WALTER SCOTT UNIT 3

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	103.5987	GEN562902 1-G15052_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.598	GEN587163 1-G16-022-GEN10.6500
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.5944	GEN533141 1-SLATEGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	103.586	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.5823	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	103.5258	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.513	GEN563032 1-G15067_3 0.4180
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.5123	GEN562718 1-G15_024_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.5107	GEN562720 1-G15_025_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.5106	GEN563242 1-G15090_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.5105	GEN587503 1-G73-073-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	103.4833	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0495	103.4833	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.4396	GEN514643 1-BRKWND11 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0481	103.4022	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0481	103.4022	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.3669	GEN563052 1-G15069_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.3336	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0557	103.3111	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0479	103.2882	CIMARRON - MINCO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	103.2054	GEN587413 1-G16-061-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.1246	GEN645011 1-NEBRASKA CITY 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.048	103.0474	OTTER - WOODRING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.0359	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.0343	GEN300003 1-THOMAS HILL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.0287	GEN542951 5-HAWTHORN UNIT #5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	103.0246	GEN640009 1-COOPER NUCLEAR STATION G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0642	103.0187	GEN645012 2-NEBRASKA CITY 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.9799	GEN562772 1-G15034_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.9778	GEN562658 1-G15_001_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.9751	GEN562658 1-G15_001_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.031	102.9739	G16-061-TAP 345.00 - WOODRING 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0378	102.9693	DBL-TGA-MATT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0513	102.9534	GEN587463 1-G16-068-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.8989	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	102.831	CIMARRON - MATHWSN7 345.00 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05	102.831	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0498	102.7602	DBL-THIS-G15
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.742	GEN562723 1-G15_030_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.725	GEN532722 1-EVANS ENERGY CENTER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.7137	GEN533126 1-FR2W2WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.7083	GEN533124 1-FR2E2WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.7082	GEN587483 1-G16-071-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	102.707	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.681	GEN533125 1-FR2W1WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.6767	GEN533123 1-FR2E1WF1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.069	102.6431	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	102.6123	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.6019	GEN542956 2-LACYGNE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.5439	GEN542957 1-IATAN UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.5017	GEN563022 1-G15066_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	102.4737	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.049	102.4737	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	102.4405	GEN562429 1-G13-029 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.4301	GEN562691 1-G15_015_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	102.2603	GEN514805 1-SOONER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.251	GEN562902 1-G15052_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	102.1658	GEN542955 1-LACYGNE UNIT #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	102.1326	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	102.1282	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	102.0963	GEN515484 1-CHSHMVW1 0.5750
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	102.0946	GEN515479 1-CHSHMVE1 0.5750
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	102.0513	GEN514806 1-SOONER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	101.9857	GEN542962 2-IATAN UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	101.9108	GEN562611 1-G14_064_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0479	101.8991	GRACEMONT - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	101.794	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	101.7936	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	101.7824	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	101.5621	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	101.3914	P12:138:WFEC:MSL15

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	101.3626	GEN562882 1-G15047_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0484	101.0399	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	100.9612	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	100.9	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	100.8978	P12:138:OKGE:3TERM1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0557	100.8762	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	100.7145	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	100.6576	GEN515484 1-CHSHMVW1 0.5750
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	100.6562	GEN515479 1-CHSHMVE1 0.5750
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0535	100.6017	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	100.6007	GEN514805 1-SOONER UNIT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	100.5861	GEN515042 1-SEMINOLE 3G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	100.5573	GEN562611 1-G14_064_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0411	100.5359	DBL-THIS-WWR
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	100.5332	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	100.496	GEN514806 1-SOONER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.048	100.4688	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0642	100.449	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	100.4245	GEN587463 1-G16-068-GEN10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0529	100.3203	DOVER SW - HENESSEY 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0527	100.227	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0509	100.1267	VIOLA 7 345.00 (VIOLA 1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0523	100.0965	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0548	100.0619	DBL-G1524-WI
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	100	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	100	GEN336821 1-GRAND GULF UNIT
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99.9	GEN501801 1-DOLET HILLS UNIT1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	99.8	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99.8	GEN515040 1-SEMINOLE 1G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99.8	GEN525562 1-TOLK GEN #2 24 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99.7	GEN336153 1-WATERFORD UNIT#3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99.7	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	99.7	GEN587413 1-G16-061-GEN10.6900

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99.6	GEN525561 1-TOLK GEN #1 24 KV
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0332	99.5	G16-061-TAP 345.00 - WOODRING 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99.4	GEN335831 1-RIVERBEND UNIT#1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99.4	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0537	99.3	DBL-G1524-WI
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0559	99.3	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	99.3	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0508	99.3	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0531	99.1	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99.1	GEN514939 1-HORSESHOE LAKE 8G
08NR	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0395	99.1	DBL-TGA-MATT
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.051	99	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0504	99	GEN509416 1-TURK GENERATION
08ALL	25SP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0716	118.7752	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0728	113.5	SOONER - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0728	113.3601	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0716	111.6506	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0763	109.0456	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0763	108.9096	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0798	108.1476	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0724	108.1084	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0817	105.5552	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0761	105.0683	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0761	104.8071	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.071	103.1599	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.071	102.9576	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0494	102.7227	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.048	102.3797	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0724	101.0884	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0518	100	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.078	106.9997	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0745	103.1119	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.078	102.732	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0699	102.1934	CANEYRV7 345.00 - NEOSHO 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0725	100.7722	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0764	100.3539	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0852	100.1713	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0652	99.5	GEN542955 1-LACYGNE UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0701	99.4	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0745	99.1	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.078	106.9992	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0745	103.1119	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.078	102.732	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0699	102.1933	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0725	100.7721	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0764	100.3539	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0852	100.1711	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0652	99.5	GEN542955 1-LACYGNE UNIT #1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0701	99.4	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0745	99.1	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	1076	0.0545	102.6692	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	1076	0.0546	102.129	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	KINZE - MCELROY 138KV CKT 1	194	222	0.0485	106.2659	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	KINZE - MCELROY 138KV CKT 1	194	222	0.0488	102.0706	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	KINZE - MCELROY 138KV CKT 1	194	222	0.034	100.1992	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	KINZE - MCELROY 138KV CKT 1	194	222	0.034	100.1992	FAIRFAX - PAWNWS4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	NORTHWEST - SPRING CREEK 345KV CKT 1	1039	1195	0.0688	101.6829	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2306	99.4	OSAGE - SOONER PUMP TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2231	99.4	HAWTHORNE - NORTHEAST STATION 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	189	189	0.2212	99.4	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2238	99.3	GEN562429 1-G13-029 0.6900
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2231	99.3	P12:138:AEPW:VINTAJC4:N.E.S.-4
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2306	99.2	SOONER - SOONER PUMP TAP 138KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2299	99.2	P12:138:OKGE:3TERM7
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2266	99.2	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2238	99.2	GEN533141 1-SLATEGEN1 0.6900
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2271	99.1	DMNCRKT4 - WHITE EAGLE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2238	99.1	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2261	99	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.2271	99	DMNCRKT4 - MILLER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.229	99.4	P12:138:OKGE:3TERM7
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2202	99	P13:069-138:WERE:DEAR_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2202	99	COFFEYVILLE TAP - DEARING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.2202	99	COFFEYVILLE TAP - DEARING 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	SPVALLY4 138.00 - STILLWATER 138KV CKT 1	194	222	0.0554	106.7891	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	SPVALLY4 138.00 - STILLWATER 138KV CKT 1	194	222	0.0554	106.7891	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	SPVALLY4 138.00 - STILLWATER 138KV CKT 1	194	222	0.0515	99.6	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	SPVALLY4 138.00 - STILLWATER 138KV CKT 1	194	222	0.049	99.1	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0555	135.0422	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0508	131.9414	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0541	126.1674	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0541	126.1137	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0571	123.401	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0501	121.8535	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.055	121.6922	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.055	121.6324	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0521	121.3502	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0489	120.6746	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0489	120.6201	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0541	119.0327	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.058	118.0315	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0516	117.5899	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0516	117.5362	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0458	117.4218	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0539	116.1509	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0539	116.1173	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0529	116.1055	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0551	115.8932	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0551	115.8771	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.055	114.8666	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0558	114.1278	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0489	113.5293	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0484	112.7407	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0525	111.6566	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0509	111.0892	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0516	110.1714	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0551	108.8909	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0539	108.7855	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0444	108.2506	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0545	107.6403	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0497	107.2948	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0353	105.0394	87th STREET - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0387	104.9992	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0387	103.8237	GEN542956 2-LACYGNE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0415	103.772	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0348	103.4672	87th STREET - CRAIG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0382	102.5514	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.042	102.3514	LACYGNE - STILWELL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0526	100.972	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0526	100.9527	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0415	100.9063	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0387	100.8618	GEN542951 5-HAWTHORN UNIT #5
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0382	100.8455	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0423	100.4115	AXTELL - G16-050-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0395	100.3452	LAWRENCE HILL (LAWH TX-3) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0387	100.3286	GEN300003 1-THOMAS HILL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0387	100.1971	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0436	100	CLEVELAND - TULSA NORTH 345KV CKT 1

Table 11: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0436	100	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0423	99.7	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0397	99.5	SWISSVALE - TECUMSEH HILL 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0397	99.5	TECUMSEH HILL (TECH TX-3) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0399	99.4	IATAN - NASHUA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0454	99.4	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0391	99.3	AUBURN ROAD (AUBN TX-1) 230/115/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0373	99.3	SUMMIT - UNIONRG6 230.00 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0368	99.2	HUNTERS7 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0367	99	BENTON - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	VIOLA 7 345.00 (VIOLA 1X) 345/138/13.8KV TRANSFORMER CKT 1	448	492.8	0.04	100.7896	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	VIOLA 7 345.00 (VIOLA 1X) 345/138/13.8KV TRANSFORMER CKT 1	448	492.8	0.04	99.8	VIOLA 7 345.00 - WICHITA 345KV CKT 1

THERMAL AND STEADY STATE VOLTAGE CONSTRAINTS TABLES BASE ON AECI UPGRADE SET #2

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29077	152.9221	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29077	152.9174	P12:138:AEPW:BARNSAL4:T.NO.--4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29077	152.656	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.30807	149.766	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.30643	147.6225	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.30757	146.3156	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20145	142.1757	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20145	142.1757	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.27303	134.2618	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.27303	134.2618	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20395	133.0989	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20395	133.0989	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19946	132.9466	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	132.568	GEN511839 1-NORTHEASTERN STATION #2
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.30759	130.0279	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	129.8239	GEN511839 1-NORTHEASTERN STATION #2
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20313	129.7311	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20313	129.7311	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.29375	129.6105	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.29375	129.5844	P12:138:AEPW:BARNSAL4:T.NO.--4
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.27451	129.2303	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.27451	129.2303	FAIRFAX - PAWNWSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20081	128.9187	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19946	128.8045	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.29375	128.7676	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19976	127.9878	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19976	127.9681	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20081	127.5595	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20264	126.7243	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19858	126.5904	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1963	126.5623	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1963	126.5623	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1963	126.4859	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1963	126.4859	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19976	125.9291	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20144	125.7233	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.27407	125.7201	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.27407	125.7201	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.29271	125.4727	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20357	125.4674	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.29271	125.4451	P12:138:AEPW:BARN4:T.NO.--4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19946	124.6772	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.29271	124.636	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19858	124.3766	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19943	124.3666	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20081	123.9753	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19563	123.8053	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19563	123.8053	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19563	123.7352	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19563	123.7352	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20183	123.0015	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.21757	122.6284	CLEAVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.21757	122.6284	CLEAVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20076	122.5551	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19943	122.4785	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20742	122.4644	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20081	122.435	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20353	122.2926	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20353	122.2926	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.30795	122.1258	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19825	122.1217	OWASSO NORTH TAP - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19888	122.0872	ALTOONA - BUTLER 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19888	122.0846	P13:069-138:WERE:BTUL_TX-1::
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19565	122.005	P13:069-138:WERE:ALTO_TX-1OR3P::
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20238	121.9879	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20282	121.7326	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19947	121.7288	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20025	121.7089	SPVALLY4 138.00 - STILLWATER 138KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20065	121.6858	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19947	121.6338	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19993	121.6149	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19825	121.5884	P12:138:AEPW:OWASSO1094:T.NO.-4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19825	121.502	OWASSO 109TH STREET - OWASSO NORTH TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19903	121.496	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19903	121.496	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20066	121.3738	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19956	121.1691	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20066	121.0247	COLLINSVILLE (COLAUTO3) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20066	121.0247	COLLINSVILLE (COLAUTO3) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19837	120.8808	NORTHEAST STATION - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19837	120.8808	NORTHEAST STATION - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19825	120.8043	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19825	120.8043	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20144	120.7673	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19564	120.6886	ALTOONA - TAYLOR 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19564	120.4798	MONTGOMERY - TAYLOR 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	120.4678	GEN562694 1-G15_016_3 0.6900
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19564	120.4567	P12:138:WERE:ALTO-MONT_138::
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2006	120.3389	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19558	120.2576	P13:069-138:WERE:MONT_TX-1::
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20264	120.2341	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20154	120.2257	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20154	120.2255	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	119.8869	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.30816	119.7162	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20126	119.0126	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20936	118.9755	FAIRFAX 138/69KV TRANSFORMER CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.30758	118.4914	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	118.2208	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	118.1199	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20283	118.1086	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20283	118.1086	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20154	117.9758	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	117.8081	BASE CASE
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2006	117.6974	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20076	117.5728	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1999	117.2886	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20128	117.2009	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	117.0065	GEN511836 1-NORTHEASTERN STATION #1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20183	116.8864	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20086	116.7771	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20086	116.7765	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20126	116.5175	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2013	116.3381	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20863	116.1482	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.21227	116.0917	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20144	115.865	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20128	115.8089	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.21227	115.6105	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19782	115.4661	P12:138:AEPW:VINTAJC4:N.E.S.-4
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2018	115.4198	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	115.3512	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	115.2494	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1963	115.0855	COFFEYVILLE FARMLAND - SOUTH COFFEYVILLE CITY 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1969	115.0571	NEOSHOS4 138.00 - TWIN VALLEY NO. 1 MOUND VALLEY 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20055	114.9999	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	114.978	GEN509394 1-FLINT CREEK
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19691	114.9777	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19691	114.9777	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19691	114.9678	40OLOGAH 138.00 - CLAREMORE 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	114.946	GEN562691 1-G15_015_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20357	114.8961	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20302	114.8563	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19691	114.8315	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19691	114.8313	P12:138:AEI-AEPW:CLARMR5:N.E.S.-4
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2018	114.8149	CLEAVELAND - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20078	114.8111	ALTOONA - BUTLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20078	114.7999	P13:069-138:WERE:BTUL_TX-1::
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29367	114.7765	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29367	114.7618	P12:138:AEPW:BARNAL4:T.NO.--4
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20077	114.7596	NEOSHO (N345 TX-2) 345/161/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2018	114.7242	P13:069-138:WERE:ELPA_TX-1::
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1999	114.7197	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2018	114.6985	EL PASO - FARBER 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20078	114.6761	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20078	114.6761	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20078	114.6759	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20078	114.6759	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1969	114.6513	LIBERTY - TWIN VALLEY NO. 1 MOUND VALLEY 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1969	114.5995	P12:138:WERE:LIBE-NSE138::
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20086	114.5879	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20169	114.5835	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	114.5278	GEN511839 1-NORTHEASTERN STATION #2
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	114.503	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19993	114.4606	NEOSHON4 138.00 - NORTHEAST PARSONS 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	114.4432	GEN514806 1-SOONER UNIT 2
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	114.4402	GEN512688 2-GRDA1 GSU2 22
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20169	114.4323	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20169	114.3534	CUSHING - PAYNESB4 138.00 138KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	114.3349	GEN547649 1-ASBURY UNIT #1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20109	114.2829	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29367	114.2789	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2018	114.2495	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20066	114.2156	NEOSHO (NEOSHO1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20105	114.1928	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20267	114.1737	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	114.1671	GEN300003 1-THOMAS HILL UNIT 3
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	114.1442	GEN542955 1-LACYGNE UNIT #1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	114.126	GEN511836 1-NORTHEASTERN STATION #1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19685	114.0837	P13:069-138:WERE:LIBE_TX-1::
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	114.0691	GEN562694 1-G15_016_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20264	114.005	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2016	113.9327	CHEROKEE DATA CENTER EAST TAP - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2016	113.9327	CHEROKEE DATA CENTER EAST TAP - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20108	113.9278	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20057	113.7968	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	113.7922	GEN562611 1-G14_064_3 0.6900
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	113.6909	GEN587483 1-G16-071-GEN10.6900
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19839	113.5589	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2006	113.461	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2119	113.2244	4GLENCOE 138.00 - PAWNWSW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20124	113.1833	KILDARE4 - NWRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20303	113.1563	P12:138:WERE:CRSW-OGE_138::
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20124	113.0419	NEWKIRK4 - NWRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20124	112.8982	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20124	112.8168	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20055	112.7219	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2119	112.7191	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20076	112.6619	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19621	112.6471	NEOSHOS4 138.00 - TWIN VALLEY NO. 1 MOUND VALLEY 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20102	112.5689	VIOLA 7 345.00 - WICHITA 345KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20057	112.4564	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20436	112.3776	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20436	112.3776	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20436	112.3766	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19621	112.2425	LIBERTY - TWIN VALLEY NO. 1 MOUND VALLEY 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	112.2128	GEN509394 1-FLINT CREEK
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19621	112.1893	P12:138:WERE:LIBE-NSES_138::
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	112.0041	GEN512688 2-GRDA1 GSU2 22
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2014	111.9073	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20108	111.8934	CLEAVELAND - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20009	111.8356	NEOSHO (N345 TX-2) 345/161/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2001	111.7284	ALTOONA - BUTLER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19563	111.7253	COFFEYVILLE FARMLAND - SOUTH COFFEYVILLE CITY 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19925	111.723	NEOSHON4 138.00 - NORTHEAST PARSONS 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2001	111.7197	P13:069-138:WERE:BTUL_TX-1::
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19617	111.6715	P13:069-138:WERE:LIBE_TX-1::
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20263	111.654	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.2038	111.5133	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.2038	111.5133	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20282	111.3975	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	111.3696	GEN547649 1-ASBURY UNIT #1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20233	111.366	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20108	111.3092	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19997	111.2979	NEOSHO (NEOSHO1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	111.2125	GEN542955 1-LACYGNE UNIT #1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	111.1398	GEN300003 1-THOMAS HILL UNIT 3
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20195	111.1327	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20037	111.1213	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	111.1207	GEN562694 1-G15_016_3 0.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2004	111.0517	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2009	111.0345	CHEROKEE DATA CENTER EAST TAP - TULSA NORTH 138KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2009	111.0345	CHEROKEE DATA CENTER EAST TAP - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20183	110.9988	OPENSKY7 345.00 - RANCHR47 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	110.8702	BASE CASE
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20303	110.5628	P12:138:OKGE:3TERM7
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.27407	110.4233	FAIRFAX - PAWN4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.27407	110.4233	FAIRFAX - PAWN4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	109.7657	GEN514805 1-SOONER UNIT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20317	109.3489	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20317	109.3489	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20081	109.0633	RANCHR47 345.00 - SOONER 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19562	108.9384	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19562	108.9384	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19562	108.885	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19562	108.885	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29394	108.5855	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29394	108.5716	P12:138:AEPW:BARN4:T.NO.--4
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29394	108.1107	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19914	107.9482	CATOOSA - PORT OF CATOOSA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	107.9365	GEN587213 1-G16-032-GEN10.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	107.9345	BASE CASE
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	107.8317	GEN587463 1-G16-068-GEN10.6900
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.27438	107.7507	FAIRFAX - PAWN4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.27438	107.7507	FAIRFAX - PAWN4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	107.7103	GEN533141 1-SLATEGEN1 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	107.6857	GEN562992 1-G15063_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	107.6821	GEN562429 1-G13-029 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	107.622	GEN587413 1-G16-061-GEN10.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	107.5817	GEN563022 1-G15066_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20206	107.3078	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	107.1279	GEN562691 1-G15_015_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20302	107.1171	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20073	107.0005	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19914	106.953	CATOOSA - TERRA NITROGEN TAP 138KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29275	106.7788	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29275	106.7668	P12:138:AEPW:BARNAL4:T.NO.--4
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20302	106.7455	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	106.6804	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20476	106.4547	OSAGE - SOONER PUMP TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20302	106.4146	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20259	106.332	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20259	106.332	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20259	106.3302	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20259	106.3302	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	106.3247	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20476	106.3105	SOONER - SOONER PUMP TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29275	106.3058	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2001	106.2593	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2001	106.2593	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20302	106.2401	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2002	106.1394	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2002	106.1394	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19968	106.0918	ALLUWE TAP - VINITA JUNCTION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19968	105.9924	ALLUWE TAP - CHELSEA 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20179	105.9052	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19914	105.8387	TERRA NITROGEN TAP - VERDIGRIS 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20313	105.7315	P12:138:OKGE:3TERM47
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19914	105.7042	OWASSO SOUTH - PORT OF CATOOSA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	105.6826	GEN562611 1-G14_064_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	105.4774	GEN514806 1-SOONER UNIT 2
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20434	105.4126	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19968	105.4113	CHELSEA - HAWTHORNE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	105.287	GEN587483 1-G16-071-GEN10.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19968	105.2757	HAWTHORNE - NORTHEAST STATION 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20237	105.1053	DMNCRK4 - MILLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20296	105.0927	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20296	105.0927	KINZE - STILLWATER KINZIE 138KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19968	105.0549	P12:138:AEPW:VINTAJC4:N.E.S.-4
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20409	105.002	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20409	105.002	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19846	104.9839	CATOOSA - PORT OF CATOOSA TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	104.9749	GEN587463 1-G16-068-GEN10.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20237	104.9731	MILLER - SOONER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	104.8414	GEN562992 1-G15063_3 0.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	104.8201	GEN562429 1-G13-029 0.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	104.7709	GEN587413 1-G16-061-GEN10.6900
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20129	104.7448	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	104.7339	GEN563022 1-G15066_3 0.6900
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19914	104.5639	CLAREMORE TRANSOK - VERDIGRIS 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20477	104.5374	P12:138:OKGE:3TERM7
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20077	104.5188	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.29279	104.4706	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.29279	104.4485	P12:138:AEPW:BARNAL4:T.NO.--4
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20238	104.3465	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20132	104.3304	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	104.256	GEN562691 1-G15_015_3 0.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20233	104.2294	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19914	104.1559	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19914	104.0518	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19846	103.9895	CATOOSA - TERRA NITROGEN TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20315	103.9062	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20315	103.9062	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	103.8534	GEN562882 1-G15047_3 0.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20233	103.7661	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.27459	103.7535	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.27459	103.7535	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20285	103.6989	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.29279	103.6444	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19943	103.5791	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19953	103.5717	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20233	103.4383	NEWKIRK4 - PECKHAM TAP 138KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2019	103.3542	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2019	103.3542	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2019	103.353	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2019	103.353	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19899	103.271	ALLUWE TAP - VINITA JUNCTION 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20406	103.2481	OSAGE - SOONER PUMP TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20233	103.2208	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1995	103.1837	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1995	103.1837	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19899	103.1716	ALLUWE TAP - CHELSEA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20406	103.111	SOONER - SOONER PUMP TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20368	102.954	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	102.9031	GEN562611 1-G14_064_3 0.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19846	102.8448	TERRA NITROGEN TAP - VERDIGRIS 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19846	102.6986	OWASSO SOUTH - PORT OF CATOOSA TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19899	102.5834	CHELSEA - HAWTHORNE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	102.5829	GEN587483 1-G16-071-GEN10.6900
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	102.5419	GEN514806 1-SOONER UNIT 2
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20098	102.456	GEN511839 1-NORTHEASTERN STATION #2
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19899	102.4461	HAWTHORNE - NORTHEAST STATION 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.27407	102.4152	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.27407	102.4152	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19899	102.2292	P12:138:AEPW:VINTAJC4:N.E.S.-4
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19831	102.184	40OLOGAH 138.00 - CLAREMORE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19831	102.184	40OLOGAH 138.00 - CLAREMORE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19831	102.1836	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19831	102.1836	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20628	102.1618	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20628	102.1618	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20628	102.1618	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20628	102.1618	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20407	102.093	P12:138:OKGE:3TERM7
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19831	101.7395	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19831	101.7395	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19831	101.7248	P12:138:AECI-AEPW:CLARMR5:N.E.S.-4
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20273	101.6977	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20273	101.6977	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20264	101.596	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20213	101.5603	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19846	101.5182	CLAREMORE TRANSOK - VERDIGRIS 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20131	101.4819	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20131	101.475	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20022	101.1585	GEN511839 1-NORTHEASTERN STATION #2
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19846	101.1099	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19846	101.0205	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20316	100.9921	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20316	100.9921	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20129	100.7681	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19611	100.7654	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19611	100.7654	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19611	100.7035	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19611	100.7035	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20056	100	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20179	99.9	G15052_T 345.00 - OPENSUY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19992	99.7	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20131	99.6	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20084	99.6	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20084	99.6	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20077	99.6	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20044	99.6	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	99.6	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20863	99.5	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	99.5	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.7411	BASE CASE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.9226	BASE CASE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.3811	BASE CASE
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.8226	BASE CASE
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.685	BASE CASE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.2937	BASE CASE
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22469	100	4REMINGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22469	101.3599	4REMINGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22378	100	4REMINGTON 138.00 - BARNSDALL 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29077	135.3098	BARNSDALL - SKIATOOK PUMP 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29077	135.3047	P12:138:AEPW:BARNSAL4:T.NO.--4
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.29077	135.0533	SKIATOOK PUMP - TULSA NORTH 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.30643	130.5696	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20145	125.9797	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20145	125.9797	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.27303	118.7478	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.27303	118.7478	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19946	117.8749	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20081	115.4202	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19946	114.6186	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19976	113.2204	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19976	113.214	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19858	112.2878	CLEVELAND - G15066_T 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20081	112.2493	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19976	111.7555	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19946	111.3996	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19858	110.7371	G15066_T 345.00 - SOONER 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20081	110.3445	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19445	110.2432	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19445	110.2432	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19445	110.0999	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19445	110.0999	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19943	109.5727	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.21757	109.0253	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.21757	109.0253	CLEVELAND - PAWNSW4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20742	108.9946	FAIRFAX 138/69KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19825	108.9271	OWASSO NORTH TAP - TULSA NORTH 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19565	108.5641	P13:069-138:WERE:ALTO_TX-10R3P::
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19888	108.478	ALTOONA - BUTLER 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19888	108.4737	P13:069-138:WERE:BUTL_TX-1::
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19825	108.3929	P12:138:AEPW:OWAS1094:T.NO.-4
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20065	108.3669	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20081	108.337	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19825	108.3052	OWASSO 109TH STREET - OWASSO NORTH TAP 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19903	108.2704	REDBUD - RIVERSIDE STATION 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19903	108.2704	REDBUD - RIVERSIDE STATION 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20066	108.1411	4SFORKKTP 138.00 - SKIATOOK TAP 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20025	108.1318	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19943	108.1128	G15063_T 345.00 - WOODRING 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20066	108.0327	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19981	108.0051	CLEVELAND - JAVINE 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19981	107.8642	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19837	107.71	NORTHEAST STATION - TULSA NORTH 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19837	107.71	NORTHEAST STATION - TULSA NORTH 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20066	107.679	COLLINSVILLE (COLAUTO3) 161/138/13.8KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20066	107.679	COLLINSVILLE (COLAUTO3) 161/138/13.8KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19825	107.6035	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19825	107.6035	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19947	107.5977	SOONER - SPRING CREEK 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19993	107.5838	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19947	107.5378	NORTHWEST - SPRING CREEK 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19564	107.5065	ALTOONA - TAYLOR 138KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19956	107.4712	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	107.4091	GEN562694 1-G15_016_3 0.6900
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19564	107.2943	MONTGOMERY - TAYLOR 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19564	107.2724	P12:138:WERE:ALTO-MONT_138::
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	104.791	BASE CASE
08NR	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.30795	104.3882	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19817	102.655	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19426	102.4024	BARTLESVILLE COMANCHE - BLUESTEM 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19691	102.1544	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19691	102.1544	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19691	102.1447	4OOLOGAH 138.00 - CLAREMORE 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	102.0168	GEN562691 1-G15_015_3 0.6900
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19691	102.0154	4OOLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19691	102.0146	P12:138:AEI-AEPW:CLARMR5:N.E.S.-4
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	101.9998	GEN525561 1-TOLK GEN #1 24 KV
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.14477	101.9947	4REMINGTON 138.00 - SHIDLER 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.14477	101.9947	4REMINGTON 138.00 - SHIDLER 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20078	101.82	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20078	101.82	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20078	101.8198	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20078	101.8198	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	101.6653	GEN562611 1-G14_064_3 0.6900
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19434	101.5152	P12:138:AEPW:N.E.S.-4:CATOOSA4
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	101.498	GEN587483 1-G16-071-GEN10.6900
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	101.4474	GEN514806 1-SOONER UNIT 2
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20124	101.3419	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20124	101.2007	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20124	101.0615	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20303	101.0548	P12:138:WERE:CRSW-OGE_138::
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19839	101.0049	BLACKBERRY - NEOSHO 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20124	100.9802	MIDLTNT4 138.00 - PECKHAM TAP 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18685	100.8015	P13:069-138:WERE:DEAR_TX-1::
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18684	100.7733	COFFEYVILLE TAP - DEARING 138KV CKT 1

Table 12: Thermal Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18684	100.7733	COFFEYVILLE TAP - DEARING 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20436	99.8	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20436	99.8	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18682	99.8	NORTHEAST STATION - WATOVA 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20436	99.8	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20263	99.7	KILDARE4 - WHITE EAGLE 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18682	99.5	NOWATA - WATOVA 138KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1	143	143	0.03579	100.7905	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	20L	ASGI_17_05	TO->FROM	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1	143	143	0.03579	100.7905	CLEVELAND - TULSA NORTH 345KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03205	111.466	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03199	109.7765	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03205	103.4973	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	101.7476	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	101.4495	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	101.3284	P12:069:WERE:BELL-CRSW_69::
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	100	CITY OF WELLINGTON - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	99.7	TIMBER JUNCTION - UDALL 69KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03376	99.5	G15-015T 138.00 - MDRDTP4 138.00 138KV CKT 1
08NR	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	99.5	P12:069:WERE:TIMJ-WEAV_69::
08NR	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06544	106.1318	SOONER - SPRING CREEK 345KV CKT 1
08NR	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06544	106.1169	NORTHWEST - SPRING CREEK 345KV CKT 1
08NR	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0704	104.0575	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03726	102.2863	CLEVELAND - G15066_T 345.00 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06591	100.9812	SOONER - SPRING CREEK 345KV CKT 1
08NR	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06591	100.874	NORTHWEST - SPRING CREEK 345KV CKT 1
08NR	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04063	100	CLEVELAND - G15066_T 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
0	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04625	117.3721	P12:138:AEPW:N.E.S.-4:CATOOSA4
0	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04657	115.9827	P12:138:AEPW:N.E.S.-4:CATOOSA4
0	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04662	113.5497	P12:138:AEPW:N.E.S.-4:CATOOSA4
0	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04221	103.1035	GRDA1 - GREC TAP5 345.00 345KV CKT 1
0	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04182	102.9459	GRDA1 - GREC TAP5 345.00 345KV CKT 1
0	20WP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	158	158	0.04643	99.4	P12:138:AEPW:N.E.S.-4:CATOOSA4
0	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04226	96.7	GRDA1 - GREC TAP5 345.00 345KV CKT 1
0	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03814	96.7	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
0	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03815	96.5	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
0	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03841	95.7	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
0	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03815	95.7	CLAREMORE TRANSOK - VERDIGRIS 138KV CKT 1
0	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03842	95.5	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05366	113.6075	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05366	113.3322	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
0	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05383	109.5345	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
0	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05383	109.5248	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03229	107.9618	HALLETT TAP - PAWNEE 69KV CKT 1
0	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0537	106.4308	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
0	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0537	106.4252	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
0	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03242	103.1929	HALLETT TAP - PAWNEE 69KV CKT 1
0	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03232	100.097	HALLETT TAP - PAWNEE 69KV CKT 1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03979	99.6	SOUTH FORK - TALLANT 69KV CKT 1
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05361	98.6	P12:138:GRDA:COLLINSVILLE-CLEVELAND
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0534	98.2	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
0	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0534	98.2	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1
0	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03988	95.2	SOUTH FORK - TALLANT 69KV CKT 1
00NR	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04226	96.8	GRDA1 - GREC TAP5 345.00 345KV CKT 1
00NR	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05421	99.2	CLEVELAND - CLEVLND 4 138.00 138KV CKT Z1
00NR	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05421	99.2	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
00NR	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05421	99.2	CLEVELAND - CLEVLND 4 138.00 138KV CKT Z1
00NR	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05421	99.2	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
00NR	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07105	98.9	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
00NR	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07105	98.9	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
00NR	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05388	97.6	CLEVELAND - HALLETT TAP 69KV CKT 1
00NR	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03981	97.5	SOUTH FORK - TALLANT 69KV CKT 1
00NR	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05658	95.9	BASE CASE
00NR	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05409	95.5	CLEVELAND - CLEVLND 4 138.00 138KV CKT Z1
00NR	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05409	95.5	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
00NR	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05409	95.5	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
00NR	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05409	95.5	CLEVELAND - CLEVLND 4 138.00 138KV CKT Z1
00NR	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.09217	95.4	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
00NR	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.09217	95.4	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04625	126.9066	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04657	126.3096	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04662	124.6265	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04221	120.8951	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04182	119.6611	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04658	114.1114	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04226	113.3331	GRDA1 - GREC TAP5 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	158	158	0.04643	107.7439	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	16WP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	158	158	0.04718	105.3738	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03814	104.8502	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03815	104.694	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03841	104.4533	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03764	104.3892	HAWTHORNE - NORTHEAST STATION 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03738	104.2965	HAWTHORNE - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03842	104.2649	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03764	104.1549	P12:138:AEPW:VINTAJC4:N.E.S.-4
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03764	104.0625	CHELSEA - HAWTHORNE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03738	104.0609	P12:138:AEPW:VINTAJC4:N.E.S.-4
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03738	103.9719	CHELSEA - HAWTHORNE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03815	103.853	CLAREMORE TRANSOK - VERDIGRIS 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03842	103.4221	CLAREMORE TRANSOK - VERDIGRIS 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03764	102.634	ALLUWE TAP - CHELSEA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03738	102.545	ALLUWE TAP - CHELSEA 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03847	102.5349	NORTHEAST STATION - OWASSO SOUTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03764	102.4021	ALLUWE TAP - VINITA JUNCTION 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03738	102.3167	ALLUWE TAP - VINITA JUNCTION 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03848	102.2962	CLAREMORE TRANSOK - NORTHEAST STATION 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03639	101.6888	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03814	101.5494	OWASSO SOUTH - PORT OF CATOOSA TAP 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03451	101.4656	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03848	101.4566	CLAREMORE TRANSOK - VERDIGRIS 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	158	158	0.04204	101.2427	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0367	101.204	CLEVELAND - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03841	101.1845	OWASSO SOUTH - PORT OF CATOOSA TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03815	101.1842	TERRA NITROGEN TAP - VERDIGRIS 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03477	101.1135	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03842	100.8508	TERRA NITROGEN TAP - VERDIGRIS 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03767	100.7417	HAWTHORNE - NORTHEAST STATION 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03767	100.5102	P12:138:AEPW:VINTAJC4:N.E.S.-4
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03767	100.4158	CHELSEA - HAWTHORNE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03351	100.3752	GEN512688 2-GRDA1 GSU2 22
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03639	100.1612	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04221	99.9	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0367	99.8	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03382	99.2	GEN512688 2-GRDA1 GSU2 22
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03168	99.2	CHOUTEAU - MAID 161KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03168	99.2	CHOUTEAU - MAID 161KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03847	99.1	OWASSO SOUTH - PORT OF CATOOSA TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04404	99	P12:138:AEPW-WERE:NBVILLE4:DEARING4
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04182	99	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03815	99	CATOOSA - TERRA NITROGEN TAP 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03767	99	ALLUWE TAP - CHELSEA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04432	98.9	P12:138:AEPW-WERE:NBVILLE4:DEARING4
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03375	98.9	GEN512688 2-GRDA1 GSU2 22
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03848	98.8	TERRA NITROGEN TAP - VERDIGRIS 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04428	98.7	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.044	98.7	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03842	98.7	CATOOSA - TERRA NITROGEN TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03767	98.7	ALLUWE TAP - VINITA JUNCTION 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03189	98.7	CHOUTEAU - MAID 161KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03189	98.7	CHOUTEAU - MAID 161KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03793	98.6	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03546	98.5	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03546	98.5	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03385	98.5	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03826	98.4	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03517	98.4	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04198	98.2	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04428	98.1	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.044	98.1	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03411	98.1	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03673	98	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03351	98	GEN509394 1-FLINT CREEK

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.02958	97.7	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.02958	97.7	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.02958	97.7	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.02958	97.7	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04198	97.4	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03483	97.3	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03814	97.1	CATOOSA - PORT OF CATOOSA TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03463	97	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03463	97	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03375	97	GEN509394 1-FLINT CREEK
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.05589	96.9	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03841	96.8	CATOOSA - PORT OF CATOOSA TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03831	96.8	4SFORKKTP 138.00 - SKIATOOK TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03192	96.8	CHOUTEAU - MAID 161KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03192	96.8	CHOUTEAU - MAID 161KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.05613	96.7	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03486	96.7	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03486	96.7	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03863	96.6	4SFORKKTP 138.00 - SKIATOOK TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03848	96.5	CATOOSA - TERRA NITROGEN TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03801	96.5	P13:069-138:WERE:DEAR_TX-1::
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03775	96.5	COFFEYVILLE TAP - DEARING 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03775	96.5	COFFEYVILLE TAP - DEARING 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03775	96.5	P13:069-138:WERE:DEAR_TX-1::
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03673	96.5	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03351	96.5	GEN513601 1-GRECCTG_1 20.000
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03801	96.4	COFFEYVILLE TAP - DEARING 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03801	96.4	COFFEYVILLE TAP - DEARING 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03375	96.4	GEN513601 1-GRECCTG_1 20.000
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0443	96.3	P12:138:AEPW-WERE:NBVILLE4:DEARING4
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03831	96.2	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04426	96.1	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03863	96	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03863	96	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03419	96	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	17G	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03752	95.9	HAWTHORNE - NORTHEAST STATION 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03752	95.8	P12:138:AEPW:VINTAJC4:N.E.S.-4
08ALL	17G	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03752	95.7	CHELSEA - HAWTHORNE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03312	95.6	GRDA1 (GRDAUTO2) 345/161/13.8KV TRANSFORMER CKT 2
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03312	95.6	GRDA1 (GRDAUTO1) 345/161/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03312	95.6	GRDA1 (GRDAUTO1) 345/161/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03312	95.6	GRDA1 (GRDAUTO2) 345/161/13.8KV TRANSFORMER CKT 2
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.04426	95.5	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03493	95.4	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03493	95.4	NORTHEAST STATION - OWASSO 109TH STREET 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0297	95.4	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0297	95.4	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.0297	95.4	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03553	95.3	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03336	95.2	GRDA1 (GRDAUTO2) 345/161/13.8KV TRANSFORMER CKT 2
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03336	95.2	GRDA1 (GRDAUTO2) 345/161/13.8KV TRANSFORMER CKT 2
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03337	95.1	GRDA1 (GRDAUTO1) 345/161/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1	143	143	0.03337	95.1	GRDA1 (GRDAUTO1) 345/161/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.17821	130.021	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.17761	127.3638	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.17821	127.3048	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.17821	126.9562	P12:138:AEPW:N.E.S-4:BV-SE--4
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.17761	124.5174	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.17761	124.1515	P12:138:AEPW:N.E.S-4:BV-SE--4
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18817	123.8139	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19445	123.0464	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19445	123.0464	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19445	122.9827	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19445	122.9827	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18817	122.4384	NOWATA - WATOVA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18817	122.1612	P12:138:AEPW:NOWATA-4:N.E.S-4
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18754	121.0771	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18754	119.6323	NOWATA - WATOVA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18754	119.3351	P12:138:AEPW:NOWATA-4:N.E.S-4

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18817	118.5345	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18754	115.6872	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19426	115.3593	BARTLESVILLE SOUTHEAST - BLUESTEM 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19426	115.1041	BARTLESVILLE COMANCHE - BLUESTEM 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.14477	114.9915	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.14477	114.9915	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.17753	114.3908	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19434	114.0943	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18685	113.0378	P13:069-138:WERE:DEAR_TX-1::
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18684	112.9783	COFFEYVILLE TAP - DEARING 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18684	112.9783	COFFEYVILLE TAP - DEARING 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18682	112.0521	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18682	111.7288	NOWATA - WATOVA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18682	111.6554	P12:138:AEPW:NOWATA-4:N.E.S-4
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.17753	111.5778	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.17753	111.2211	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18682	110.7386	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16782	108.9683	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16781	108.4649	P12:138:AEPW:WERE:NBVILLE4:DEARING4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16782	108.451	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18749	106.7253	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.17724	106.3776	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.17724	105.7876	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.17724	105.6974	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18749	105.3068	NOWATA - WATOVA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.14674	105.1479	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.14674	105.1479	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18749	105.0156	P12:138:AEPW:NOWATA-4:N.E.S-4
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.17794	102.2687	NORTHEAST STATION - RICE CREEK 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.14609	101.8128	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.14609	101.8128	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.18749	101.2333	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.17794	100.7978	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.17794	100.6157	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16194	99.8	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.15773	99.6	BARTLESVILLE COMANCHE - BARTLESVILLE SOUTHEAST 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20154	99.4	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20546	99.3	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20546	99.3	CLEVELAND - CLEVLND 4 138.00 138KV CKT Z1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20546	99.3	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19764	99.3	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19764	99.3	40OLOGAH 138.00 - CLAREMORE 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19764	99.3	CLAREMORE (CLRAUTO4) 161/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20238	99.2	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18794	99.1	NORTHEAST STATION - WATOVA 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20111	99	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20183	98.9	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19764	98.8	40OLOGAH 138.00 - NORTHEAST STATION 138KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19764	98.8	P12:138:AECI-AEPW:CLARMR5:N.E.S.-4
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20057	98.6	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20076	98.5	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.21189	98.4	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20091	98.4	GEN514805 1-SOONER UNIT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	98.3	GEN511836 1-NORTHEASTERN STATION #1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18794	98.3	NOWATA - WATOVA 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20268	98.2	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18794	98.2	P12:138:AEPW:NOWATA-4:N.E.S-4
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.17818	98	NORTHEAST STATION - RICE CREEK 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.21189	97.9	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20335	97.8	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20056	97.7	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20044	97.6	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19624	97.6	NEOSHOS4 138.00 - TWIN VALLEY NO. 1 MOUND VALLEY 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20084	97.5	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.15718	97.4	BARTLESVILLE COMANCHE - BARTLESVILLE SOUTHEAST 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20919	97.3	FAIRFAX 138/69KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20335	97.3	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19992	97.3	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20073	97.2	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20057	97.2	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20073	97.1	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19624	97.1	LIBERTY - TWIN VALLEY NO. 1 MOUND VALLEY 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19624	97.1	P12:138:WERE:LIBE-NSES_138::
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20111	97	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20129	96.8	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20159	96.6	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20159	96.6	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	96.6	GEN512688 2-GRDA1 GSU2 22
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.1962	96.6	P13:069-138:WERE:LIBE-TX-1::
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	96.5	GEN588303 1-ASGI1705-GEN0.6900
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2006	96.4	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19924	96.4	NEOSHON4 138.00 - NORTHEAST PARSONS 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20112	96.3	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20073	96.3	GEN511836 1-NORTHEASTERN STATION #1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.17818	96.3	BARTLESVILLE SOUTHEAST - RICE CREEK 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20112	96.2	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.18794	96.1	BARTLESVILLE SOUTHEAST - NOWATA 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.17818	96.1	P12:138:AEPW:N.E.S.-4:BV-SE--4
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20161	96	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.201	96	VIOLA 7 345.00 - WICHITA 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20243	95.9	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20181	95.9	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2014	95.8	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	95.8	GEN509394 1-FLINT CREEK
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19562	95.8	COFFEYVILLE FARMLAND - SOUTH COFFEYVILLE CITY 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.17757	95.8	NORTHEAST STATION - RICE CREEK 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.15628	95.8	BARTLESVILLE COMANCHE - BARTLESVILLE SOUTHEAST 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20351	95.7	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20351	95.7	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.2011	95.7	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	95.6	GEN542955 1-LACYGNE UNIT #1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20283	95.5	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20281	95.5	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20161	95.5	EL PASO - FARBER 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.2016	95.5	P13:069-138:WERE:ELPA_TX-1::
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20009	95.5	NEOSHO (N345 TX-2) 345/161/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19907	95.5	GEN301382 1-10SAGEWINDG10.6900
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20154	95.4	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20062	95.4	ALTOONA - BUTLER 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20062	95.4	P13:069-138:WERE:BUTL_TX-1::
08ALL	20SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	95.4	GEN514805 1-SOONER UNIT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	95.4	GEN547649 1-ASBURY UNIT #1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	95.4	GEN300003 1-THOMAS HILL UNIT 3
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.21211	95.3	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20109	95.3	CLEAVELAND - JAVINE 138KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20085	95.3	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20085	95.3	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	95.2	GEN542956 2-LACYGNE UNIT #2
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	95.2	GEN562694 1-G15_016_3 0.6900
08ALL	20L	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.16383	95.2	P12:138:AEPW:MOUNDRD4:BARNAL4
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.21211	95.1	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20231	95.1	CRESWELL - MIDLTNT4 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20113	95.1	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20061	95.1	NEOSHO (N345 TX-2) 345/161/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19997	95.1	NEOSHO (NEOSHO1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.19927	95.1	LACYGNE - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19637	95.1	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19637	95.1	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.2198	95	CLEAVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.2198	95	CLEAVELAND - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.20162	95	CLEAVELAND - JAVINE 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.20022	95	GEN547658 1-STATE LINE COMBINED CYCLE
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2001	95	ALTOONA - BUTLER 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	106	106	0.2001	95	P13:069-138:WERE:BTUL_TX-1::
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19637	95	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	131	131	0.19637	95	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.03028	109.4075	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.03028	109.3559	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.03028	104.5817	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.0351	98.6	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.0351	98.6	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.03539	97.9	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.03539	97.9	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.03478	96.5	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	CANEYRV7 345.00 - NEOSHO 345KV CKT 1	766	923	0.03478	96.5	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	CHEROKEE DATA CENTER EAST TAP - TULSA NORTH 138KV CKT 1	168	168	0.03379	97.5	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	CHEROKEE DATA CENTER EAST TAP - TULSA NORTH 138KV CKT 1	168	168	0.03337	97.3	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.03548	102.5658	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.03228	102.1798	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.03228	98.9	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.03316	98.1	GRACEMONT - MINCO 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.0386	96.2	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.03486	95.7	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	CIMARRON - DRAPER LAKE 345KV CKT 1	717	717	0.03486	95.7	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.04556	135.2813	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.04556	135.2813	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0479	115.3627	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.0479	115.3627	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.04737	112.5031	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.04737	112.5031	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.04697	110.5769	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.04697	110.5769	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	213	213	0.04711	95.7	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	213	213	0.04711	95.7	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.04725	95	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	CLEVELAND - SILVER CITY 138KV CKT 1	174	174	0.04725	95	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.09915	101.7631	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.08104	100.7643	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.08972	100.3007	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.08972	100.2311	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.0835	99.6	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.08448	98.9	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.08448	98.9	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.08104	97.7	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.08448	97.1	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.0835	96.7	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.07773	95.7	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.07773	95.7	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	CLEVELAND - TULSA NORTH 345KV CKT 1	1135	1195	0.09915	95.3	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1	143	143	0.03579	112.5007	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	COLLINSVILLE - SKIATOOK TAP 138KV CKT 1	143	143	0.03579	112.5007	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04985	129.1846	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05145	122.2388	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05097	118.7076	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05097	118.7058	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04757	116.7149	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05097	114.1271	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05234	112.5763	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05234	112.575	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0494	111.6626	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0491	110.0955	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04809	109.3036	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04779	108.7081	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05234	108.0338	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05522	107.6233	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05522	107.5841	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04029	106.9141	P13:115-345:WERE:LANG_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04029	106.914	LANG (LANG TX-1) 345/115/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04029	106.9124	EMPORIA ENERGY CENTER - LANG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04087	106.1173	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0458	106.0037	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04363	105.9855	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04906	105.812	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04906	105.7881	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05046	105.4151	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	105.2805	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	20L	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05489	105.129	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04349	105.1034	MORRIS COUNTY - SWISSVALE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04163	104.9571	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04329	104.9075	LACYGNE - STILWELL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03965	104.2214	MORRIS COUNTY (MORR TX-1) 345/230/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	103.8493	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	103.7517	GEN542962 2-IATAN UNIT #2
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04931	103.4273	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	103.1686	GEN542956 2-LACYGNE UNIT #2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05522	103.0968	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	103.0099	GEN542951 5-HAWTHORN UNIT #5
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03886	102.8097	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04163	102.7935	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	102.7681	GEN542957 1-IATAN UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05131	102.6998	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05131	102.6846	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04309	102.3388	AXTELL - G16-050-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	102.3237	GEN300003 1-THOMAS HILL UNIT 3
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04147	101.984	P13:115-345:WERE:LANG_TX-1::
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04147	101.984	LANG (LANG TX-1) 345/115/14.4KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04147	101.9824	EMPORIA ENERGY CENTER - LANG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	101.9117	P12:115:WERE:LANG-TECH_115P::
08ALL	25SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05023	101.9083	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05023	101.9046	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	101.8256	P12:115:WERE:FOUR-LANG_115F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03862	101.7675	87th STREET - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	101.7353	LANG - READING LAKE 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04309	101.7089	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03886	101.6896	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04674	101.6881	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04674	101.6701	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	101.4464	OSAGE CITY JUNCTION SWITCHING STATION - READING LAKE 115KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04906	101.4389	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	101.3189	GEN640009 1-COOPER NUCLEAR STATION
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	101.2602	GEN645012 2-NEBRASKA CITY 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	101.0796	GEN645011 1-NEBRASKA CITY 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.038	101.015	BENTON - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03811	100.9561	HUNTERS7 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04276	100.9257	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04276	100.9257	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	100.8987	OSAGE CITY JUNCTION SWITCHING STATION - SCRNTJS3 115.00 115KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	100.8976	SCRANTON - SCRNTJS3 115.00 115KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04205	100.8604	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	100.8291	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03992	100.8102	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04014	100.7611	DBL-THIS-G15
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04492	100.7523	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	100.5888	FOUR CORNERS - SCRNTJN3 115.00 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	100.5886	SCRANTON - SCRNTJN3 115.00 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04163	100.5576	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03882	100.3554	87th STREET - CRAIG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04125	100.3452	DBL-SPRVL-IR
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	100.244	P12:115:WERE:FOUR-TECH_115F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04067	100.2379	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03993	100.2119	P12:138:WERE:BENT-NORT_138P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	100.1877	CARB-KW 3 - FOUR CORNERS 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	100	GEN546702 1-NM GEN N1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	100	GEN344225 1-1CAL G1 25.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	100	CARB-KW 3 - SHAWNEE HEIGHTS 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04123	100	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03927	100	SUMMIT - UNIONRG6 230.00 230KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	99.9	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.9	GEN300006 1-NEW MADRID UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.9	GEN300007 1-NEW MADRID UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03993	99.9	P12:069:WERE:64TH-NORT_69F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04181	99.9	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.8	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.8	P12:115:WERE:EMAN-KSU_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03993	99.8	P12:069:WERE:COWS-HOOVS_69F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.7	GEN300002 1-THOMAS HILL UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04058	99.7	P12:115:WERE:AUBN-SMAN_115F3::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04058	99.7	P12:115:WERE:AUBN-SMAN_115F1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04058	99.7	P12:115:WERE:AUBN-SMAN_115F2::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.7	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.6	GEN659107 2-ANTELOPE VALLEY UNIT2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.6	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.6	P12:115:WERE:PHLP-SALM_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03986	99.6	P12:138:WERE:GECT-HOOV_138::
08ALL	25SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0471	99.6	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04477	99.6	MORRIS COUNTY - SWISSVALE 230KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04278	99.6	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04205	99.6	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04076	99.6	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04067	99.6	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04058	99.6	SMAN_W_3 115.00 - SOUTH MANHATTAN 115KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04051	99.6	GRAND ISLAND - SWEETWATER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.5	GEN659111 2-LELAND OLDS UNIT2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.5	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.5	GEN541162 1-ARIES STEAM TURBINE
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04014	99.5	P13:069-138:WERE:ALTO_TX-10R3P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03998	99.5	P13:115-230:WERE:MCDO_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0399	99.5	P12:138:WERE:HOOV-MURR_138::
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04453	99.5	LACYGNE - STILWELL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04194	99.5	MINGO - RED WILLOW 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04194	99.5	MINGO - RED WILLOW 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04126	99.5	SHAWNEE HEIGHTS - TECUMSEH HILL 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04076	99.5	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04068	99.5	AXTELL - PAULINE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03998	99.5	MCDOWELL CREEK - MORRIS COUNTY 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03998	99.5	MCDOWELL CREEK (MCDO TX-1) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04058	99.4902	SOUTH ALMA - SOUTH MANHATTAN 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04118	99.4	CENTERVILLE - G15-016T 161.00 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04118	99.4	P12:161:WERE:MARM-KCPL_161::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04061	99.4	G15088_T 345.00 - MOORE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.4	GEN542954 3-MONTROSE UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.4	GEN542953 2-MONTROSE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.4	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.4	P12:138:WERE:HARR-WEAV_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.4	P12:115:WERE:EEUR-WEMP_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03924	99.4	P12:115:WERE:MOUN-WEMP_115P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03804	99.4	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04079	99.3	MORRIS COUNTY (MORR TX-1) 345/230/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04056	99.3	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.3	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.3	GEN562694 1-G15_016_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.3	GEN590011 2-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.3	GEN590010 1-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.3	P12:115:WERE:3VAN-HEC_115P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03993	99.3	P12:069:WERE:MACA-PLAZ_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03991	99.3	P12:069:WERE:MOUN-NEWT_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03987	99.3	P12:115:WERE:LANG-WEMP_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03956	99.3	OVEXFRMCCOVE
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04076	99.2	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0401	99.2	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0401	99.2	CONCORDIA - ELM CREEK 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0401	99.2	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0401	99.2	CONCORDIA - ELM CREEK 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.2	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03988	99.2	P12:138:WERE:COWS-WACO_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04144	99.1	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04144	99.1	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04118	99.1	CENTERVILLE - PAOLA 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04113	99.1	MINGO - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04113	99.1	MINGO - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04062	99.1	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04061	99.1	G15088_T 345.00 - PAULINE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04015	99.1	DBL-HTCH-OTA
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.1	GEN636641 1-LOUISA UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.1	GEN300001 1-THOMAS HILL UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.1	GEN542967 9-HAWTHORN UNIT #9

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.1	GEN546698 1-QN GEN2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99.1	P12:069:WERE:HOOVN-RIPL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04017	99.08453	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04017	99.08453	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04071	99	HOLCOMB - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04071	99	HOLCOMB - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04054	99	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04037	99	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	GEN635214 4-NEAL UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	GEN541166 2-SHARPR#2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	GEN543109 4-BULL CREEK COMBUSTION TURBINE #4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	GEN543107 2-BULL CREEK COMBUSTION TURBINE #2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	GEN543106 1-BULL CREEK COMBUSTION TURBINE #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	GEN600002 3-SHERBURNE CNTY G3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	GEN541165 1-SHARPR#1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	GEN542961 6-HAWTHORN COMBUSTION TURBINE #6
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	GEN543108 3-BULL CREEK COMBUSTION TURBINE #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	99	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03986	99	P13:069-138:WERE:HOOV_TX-3::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03985	99	P13:069-138:WERE:COWS_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03904	99	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03847	99	7MCCREDIE 345.00 - 7OVERTON 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03811	99	G16-072-TAP 345.00 - RENFROW7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03811	99	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04058	98.93521	KEENE - SOUTH ALMA 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04173	98.9	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0404	98.9	CLIFTON - CONCORDIA 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0404	98.9	CLIFTON - CONCORDIA 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04034	98.9	5JASPER 161.00 - LAMAR 161KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04034	98.9	7JASPER 345.00 345/161KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04023	98.9	AUBURN ROAD - SWISSVALE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04015	98.9	IATAN - NASHUA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03999	98.9	P12:069:WERE:ALLE-TIOG_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.9	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.9	GEN549893 2-SOUTHWEST 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.9	GEN645025 5-NORTH OMAHA 5
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.9	GEN505432 1-SIKESTON
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.9	GEN300011 1-ST FRANCIS UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.9	P12:069:WERE:MEAD-PLAZ_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.9	THOMAS HILL 161/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.9	P12:115:WERE:ANZI-FTJU_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03993	98.9	P12:069:WERE:COWS-SUNS_69F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03988	98.9	P12:138:WERE:NORT-WEAV_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0398	98.9	ALTOONA - BUTLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0398	98.9	P13:069-138:WERE:BUTL_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03924	98.9	P12:115:WERE:SPCKJ-WEMP_115F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0384	98.9	DBL-THIS-WWR
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04223	98.8	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04223	98.8	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04105	98.8	BROOKLINE - FLINT CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04105	98.8	BROOKLINE - FLINT CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04099	98.8	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04068	98.8	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04042	98.8	7SPORTSMAN - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0404	98.8	CLIFTON - GREENLEAF 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0404	98.8	P12:115:WERE:KNOB-MKEC_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04019	98.8	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04018	98.8	GRAND ISLAND - MCCOOL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04016	98.8	HAWTHORN - NASHUA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN300013 1-HOLDEN UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN645042 2-CASS COUNTY 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN344896 3-1LAB G3 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN600001 2-SHERBURNE CNTY G2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN300015 1-1SGPDEL 18.000

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN659110 1-LELAND OLDS UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN344897 4-1LAB G4 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN600000 1-SHERBURNECNTY G1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN300010 1-ST FRANCIS UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	ABILENE ENERGY CENTER 115/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN543078 1-PAOLA COMBUSTION TURBINES
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN344894 1-1LAB G1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN645041 1-CASS COUNTY 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN344895 2-1LAB G2 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN300012 1-HOLDEN UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	GEN635213 3-NEAL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	4SIOUX 1 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	P12:115:WERE:WMCP-MWE_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.8	P12:115:MIDW::RICE-WHEATLANDS
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03988	98.8	P12:138:WERE:17TH-CANA_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03982	98.8	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03982	98.8	P12:115:WERE:INDA-HOYT_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03981	98.8	P12:138:OKGE:3TERM2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04016	98.78204	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04016	98.78204	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	98.7	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0407	98.7	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0407	98.7	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04065	98.7	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04058	98.7	AUBURN ROAD - OLDAUBU3 115.00 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04047	98.7	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04047	98.7	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04041	98.7	8BHAM STEEL 500.00 - WEST MEMPHIS 500 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0404	98.7	GREENLEAF - KNOB HILL 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04037	98.7	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04003	98.7	REDBUD - RIVERSIDE STATION 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04003	98.7	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03998	98.7	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03998	98.7	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03995	98.7	P12:115:WERE:MCD0-WILD_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN600004 2-PRAIRIE ISLAND G2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN600005 1-MONTICELLO
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN542964 8-HAWTHORN COMBUSTION TURBINE #8
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN600003 1-PRAIRIE ISLAND G1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN600006 1-AS KING
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN659353 1-DEERCREK CTG18.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN541154 3-RALPH GREEN GENERATING UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN532661 1-LAWRENCE ENERGY CENTER UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN541170 4-LAKERD#4 13.800
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN542963 7-HAWTHORN COMBUSTION TURBINE #7
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN547649 1-ASBURY UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN532671 1-TECUMSEH ENERGY CENTER UNIT 7
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN659354 1-DEERCREK STG18.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	P12:069:WERE:MIDI-SKEL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	ALMA 161 161/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	P12:069:WERE:MIDI-MOBI_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.7	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03993	98.7	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03993	98.7	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03987	98.7	EAST STREET - LANG 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03985	98.7	P12:138:WERE:COWS-GECT_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03982	98.7	MAIZE - MAIZEE 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03982	98.7	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03982	98.7	HOYT - NORTHLAND 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03982	98.7	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03982	98.7	MAIZE - MAIZEW 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03982	98.7	P12:138:WERE:CHIS-MAIZ_138::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03982	98.7	P12:138:WERE:GORD-MAIZ_138::
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	98.6	GEN542962 2-IATAN UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04036	98.6	CLARK - LAMAR 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04035	98.6	ELMCREEK7 345.00 (ELMCREEK T1) 345/230/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04035	98.6	ELMCREEK7 345.00 - SUMMIT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04015	98.6	DBL-BVR-G111
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03999	98.6	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03999	98.6	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	GEN509394 1-FLINT CREEK
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	GEN549890 1-SOUTHWEST 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	GEN345671 2-1RUSH G2 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	GEN300016 1-1G1GPDEL 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	GEN345670 1-1RUSH G1 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	P12:069:WERE:MURR-MIDL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	P12:069:WERE:GLEN-OAKL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	P12:115:WERE:JARB-PENT_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	7CALAWY 1 345.00 345/25.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	P12:069:WERE:CANA-MIDL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	P12:069:WERE:ALLE-ATHE_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	P12:115:WERE:3VAN-HEC_115F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.6	P12:115:WERE:SMOK-SUMM_115P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03993	98.6	P12:069:WERE:17TH-RIPL_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03992	98.6	P12:069:WERE:TIMJ-WEAV_69::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03987	98.6	30TH & PRAIRIE - LANG 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03985	98.6	P12:115:WERE:COLI-HOYT_115::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.5	P12:069:WERE:ARNO-KERE-WALN_69::
08ALL	20WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05131	98.3	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	98.1	GEN542956 2-LACYGNE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	98.1	BASE CASE
08ALL	16WP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04577	98	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	97.9	GEN542951 5-HAWTHORN UNIT #5
08ALL	20L	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05221	97.8	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	97.7	GEN542957 1-IATAN UNIT #1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04019	97.7	POST ROCK (POSTROCK T1) 345/230/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04002	97.7	103RD & ROKEBY - SUB 3458 NEB CTY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04002	97.7	103RD & ROKEBY - SUB 3458 NEB CTY 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03998	97.7	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.7	GEN303008 1-1BC2 U3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.7	GEN336152 1-WATERFORD UNIT#2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.7	GEN336151 1-WATERFORD UNIT#1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.7	GEN336170 1-GULF OXY U4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.7	GEN524023 1-NICHOLS GEN #3 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.7	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03986	97.7	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03979	97.7	CEDAR CREEK - WEST GARDNER 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03976	97.7	MIDLAND JUNCTION - TONGA TAP 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03974	97.7	5LOSTVALY 161.00 - TRUMAN 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0397	97.7	KELLY - TECUMSEH HILL 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0397	97.7	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04248	97.6	ROSE HILL - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04049	97.6	BLUSTEM7 345.00 - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04019	97.6	MORRIS COUNTY - WEST EMPORIA 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04016	97.6	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04016	97.6	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN532724 1-EVANS ENERGY CENTER GAS TURBINE 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN334070 1-LEWIS CREEK 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN303007 1-1BC2 U2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN501811 1-RODEMACHER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN527162 1-MUSTANG GEN #2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN532734 1-GILL ENERGY CENTER UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN336222 1-LITTLE GYPSY UNIT#2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN527164 1-MUSTANG GEN #4 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN303006 1-1BC2 U1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN527883 1-CUNNINGHAM GEN #3 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN532733 1-GILL ENERGY CENTER UNIT 3

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN527884 1-CUNNINGHAM GEN #4 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN334071 1-LEWIS CREEK 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN527165 1-Mustang Gen #5
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	GEN532723 1-EVANS ENERGY CENTER GAS TURBINE 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.6	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03986	97.6	G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03982	97.6	MURLEN - QUARRY 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03883	97.6	LAWRENCE HILL - SWISSVALE 230KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04278	97.5	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN525494 1-PLANT X GEN #4 20 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN532720 1-CANEYWF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN527163 1-MUSTANG GEN #3 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN587163 1-G16-022-GEN10.6500
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN527882 1-CUNNINGHAM GEN #2 20 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN539670 4-JUDSON LARGE GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN527161 1-MUSTANG GEN #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN587213 1-G16-032-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN336464 1-MICHOUD UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN514939 1-HORSESHOE LAKE 8G
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN562723 1-G15_030_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	GEN334433 1-SABINE UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	ST FRANCIS 2 161/16.0KV TRANSFORMER CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	ST FRANCIS 161/16.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.5	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03924	97.5	MOUNDRIDGE - SPRING CREEK JUNCTION 115KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.05023	97.4	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04539	97.4	JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	GEN515040 1-SEMINOLE 1G

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	GEN335204 1-NELSON UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	GEN563022 1-G15066_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	GEN337041 1-GERALD ANDRUS
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	GEN334441 1-SABINE UNIT 5
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	CHOUTEAU 161/16.0KV TRANSFORMER CKT 12
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	CHOUTEAU 161/16.0KV TRANSFORMER CKT 11
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.4	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04674	97.3	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN336831 1-BAXTER WILSON SES
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN526332 1-JONES GEN #2 21 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	FINNEY SWITCHING STATION - PSCO LAMAR DC TIE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN526334 1-JONES_4 116.500
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN562658 1-G15_001_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN562772 1-G15034_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN526331 1-JONES GEN #1 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN562691 1-G15_015_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN515484 1-CHSHMVW1 0.5750
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN533141 1-SLATEGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN526333 1-JONES GEN #3 21 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN563182 1-G15083_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	GEN515479 1-CHSHMVE1 0.5750
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	CHOUTEAU 161/16.0KV TRANSFORMER CKT 10
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.3	FINNEY SWITCHING STATION - PSCO LAMAR DC TIE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03952	97.3	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03905	97.3	CLINTON - MONTROSE 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03905	97.3	CLINTON - MONTROSE 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03815	97.3	BENTON - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0426	97.2	BENTON - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04254	97.2	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04254	97.2	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.2	GEN527901 1-HOBBS PLANT #1 (CT)

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.2	GEN587483 1-G16-071-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.2	GEN587413 1-G16-061-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.2	GEN501812 1-RODEMACHER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.2	GEN562611 1-G14_064_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.2	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.2	GEN525844 1-ELK_1 118.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.2	GEN527902 1-HOBBS PLANT #2 (CT)
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.2	GEN334440 1-SABINE UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03976	97.2	MIDLAND JUNCTION (MIDJ TX-1) 230/115/18.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03976	97.2	LAWRENCE HILL - MIDLAND JUNCTION 230KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04436	97.1	AXTELL - G16-050-TAP 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	97.1	GEN300003 1-THOMAS HILL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04019	97.1	MORRIS COUNTY (MORR TX-2) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.1	GEN587463 1-G16-068-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.1	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.1	GEN527166 1-MUSTANG_6 118.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.1	GEN525845 1-ELK_2 118.000
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97.1	GEN335206 1-NELSON UNIT 6
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03802	97.1	PLEASANT HILL - SIBLEY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04118	97	G15-016T 161.00 - MARMTNE5 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04025	97	P13:115-230:WERE:EMAN_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04024	97	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GEN523972 1-HARRINGTON GEN #2 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GEN531447 1-HOLCOMB GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GEN532721 1-EVANS ENERGY CENTER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GEN532725 1-EVANS ENERGY CENTER GAS TURBINE 3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GEN523973 1-HARRINGTON GEN #3 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GEN501813 1-RODEMACHER UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GEN562992 1-G15063_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	40SAGEWIND 138.00 - 4REMINGTON 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	97	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03927	97	MORRIS COUNTY - UNIONRG6 230.00 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.9	GEN533126 1-FR2W2WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.9	GEN533123 1-FR2E1WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.9	GEN533124 1-FR2E2WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.9	GEN533125 1-FR2W1WF1 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04249	96.8	P12:115:WERE:LANG-TECH_115P::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.8	GEN514805 1-SOONER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.8	GEN514806 1-SOONER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.8	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04249	96.7	P12:115:WERE:FOUR-LANG_115F::
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03971	96.7	LAWRENCE HILL (LAWH TX-3) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03804	96.7	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04249	96.6	LANG - READING LAKE 115KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03998	96.6	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.6	GEN335831 1-RIVERBEND UNIT#1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.6	GEN562902 1-G15052_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.6	NEW MADRID 345/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.6	DELL 500 - ESSEX UNIT 2 500KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.6	NEW MADRID 161/22.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04436	96.5	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.5	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.5	GEN336153 1-WATERFORD UNIT#3
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03957	96.5	87th STREET - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03954	96.5	WEST GARDNER (WGARD 11) 345/161/13.8KV TRANSFORMER CKT 11
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.4	GEN532740 1-EMPORIA ENERGY CENTER UNITS 1 & 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.4	GEN532741 3-EMPORIA ENERGY CENTER UNITS 3 & 4
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.4	GEN501801 1-DOLET HILLS UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04559	96.3	LACYGNE - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04249	96.3	OSAGE CITY JUNCTION SWITCHING STATION - READING LAKE 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.2	GEN336821 1-GRAND GULF UNIT

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.2	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.2	GEN562429 1-G13-029 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.2	GEN525562 1-TOLK GEN #2 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	96.2	GEN525561 1-TOLK GEN #1 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03976	96.2	AUBURN ROAD (AUBN TX-1) 230/115/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03778	96.2	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	96.1	GEN640009 1-COOPER NUCLEAR STATION
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	96.1	GEN645012 2-NEBRASKA CITY 2
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	95.9	GEN645011 1-NEBRASKA CITY 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	95.9	GEN587503 1-G73-073-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	95.9	GEN562718 1-G15_024_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	95.9	GEN563242 1-G15090_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	95.9	GEN562720 1-G15_025_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04385	95.8	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04385	95.8	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04106	95.8	HOYT (HOYT TX-1) 345/115/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	95.8	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03991	95.8	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04249	95.7	SCRANTON - SCRNTJ3 115.00 115KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04249	95.7	OSAGE CITY JUNCTION SWITCHING STATION - SCRNTJ3 115.00 115KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	95.7	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03804	95.7	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.0409	95.5	DBL-THIS-G15
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03819	95.5	STILWELL - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03761	95.5	PECULIAR - STILWELL 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04249	95.4	FOUR CORNERS - SCRNTJN3 115.00 115KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04249	95.4	SCRANTON - SCRNTJN3 115.00 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03994	95.4	GEN532722 1-EVANS ENERGY CENTER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03931	95.4	TECUMSEH HILL (TECH TX-3) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03931	95.4	SWISSVALE - TECUMSEH HILL 230KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04278	95.3	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.03959	95.3	P12:138:WERE:ELPA-SUMN_138::
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04111	95.2	P12:138:WERE:BENT-NORT_138P::
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04252	95.1	DBL-SPRVL-IR

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	717	717	0.04249	95	P12:115:WERE:FOUR-TECH_115F::
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05366	145.0041	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05366	145.002	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05383	141.8118	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05383	141.8089	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0537	137.0205	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0537	137.0182	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.10945	134.5616	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.10945	134.5616	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.10953	133.5682	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.10953	133.5682	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.10949	128.6885	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.10949	128.6885	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05626	127.5419	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03229	127.419	HALLETT TAP - PAWNEE 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05361	125.8484	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05645	125.5107	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0534	125.1342	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0534	125.1196	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.0708	124.5525	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05626	124.3429	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03242	123.578	HALLETT TAP - PAWNEE 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05378	123.5356	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07105	122.9161	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05385	122.723	CLEVELAND - HALLETT TAP 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05357	122.6728	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05357	122.659	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05645	122.4503	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05748	121.814	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06344	121.7321	P12:138:AEPW:MOUNDRD4:SHIDLER4

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06344	121.6833	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06344	121.5515	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06503	121.1915	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06503	121.1915	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05748	120.5614	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06344	120.4734	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05402	120.3952	CLEVELAND - HALLETT TAP 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.09214	120.3486	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.09214	120.3486	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05405	120.3274	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05405	120.3274	CLEVELAND - CLEVLND 4 138.00 138KV CKT Z1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05405	120.3274	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06366	120.0033	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06366	119.9552	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06344	119.8921	DOMES - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06366	119.8298	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06297	119.7193	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03232	119.6118	HALLETT TAP - PAWNEE 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06525	119.5627	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06525	119.5627	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05768	119.5472	CLEVELAND - JAVINE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05599	119.4193	4CLEVLNDXFMR138.00 138/69KV TRANSFORMER CKT 2
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06297	119.1857	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05631	118.8473	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06366	118.8047	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05364	118.6362	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05768	118.3546	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06366	118.2373	DOMES - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.09237	118.0147	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.09237	118.0147	4REMNGTON 138.00 - SHIDLER 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05421	117.9809	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05421	117.9809	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05421	117.9808	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05421	117.9808	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06303	117.8666	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05344	117.6409	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05344	117.6262	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06303	117.348	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05616	117.0942	4CLEVLNDXFMR138.00 138/69KV TRANSFORMER CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07084	116.2436	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05388	115.4437	CLEAVELAND - HALLETT TAP 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05631	115.3241	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.09217	114.7433	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.09217	114.7433	4REMNGTON 138.00 - SHIDLER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05753	113.9887	CLEAVELAND - JAVINE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06348	113.7781	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06348	113.7487	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06348	113.6229	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.063	113.2429	4GLENCOE 138.00 - PAWNSW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05409	113.0521	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05409	113.0521	CLEAVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05409	113.0521	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06506	113.034	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06506	113.034	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05753	112.7722	4SFORKKTP 138.00 - JAVINE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.063	112.7605	4GLENCOE 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06348	112.4986	DOMES - PAWHUSKA TAP 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05602	112.3558	4CLEVLNDXFMR138.00 138/69KV TRANSFORMER CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.06348	111.949	DOMES - MOUND ROAD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05368	111.9058	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05368	111.9029	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.10959	110.9594	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.10959	110.9594	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.10947	110.9383	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.10947	110.9383	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05389	110.0806	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.10958	109.9031	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.10958	109.9031	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05389	109.389	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05387	108.5479	4CLEVLNDXFMR138.00 - CLEVELAND 138KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05387	107.8519	2CLEVLNDXFMR69.000 - CLEVELAND 69KV CKT Z1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05497	106.4537	RAMONA - SOUTH FORK 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07467	106.2594	P12:138:AEPW-OGE:SHIDLER4:OSAGE 4
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07467	106.2195	FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07467	106.2111	FAIRFAX TAP - SHIDLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05758	105.7415	P12:138:OKGE:3TERM47
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05513	105.6115	RAMONA - WALMART2 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05755	105.5613	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05755	105.5613	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05658	105.3635	BURBANK - FAIRFAX 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07482	103.8091	P12:138:AEPW-OGE:SHIDLER4:OSAGE 4
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05513	103.8043	RAMONA - SOUTH FORK 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05513	103.8043	RAMONA - SOUTH FORK 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05675	103.7927	BURBANK - FAIRFAX 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07482	103.7673	FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07482	103.7591	FAIRFAX TAP - SHIDLER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07467	103.4308	OSAGE - WEBB CITY TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05649	102.4179	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.10909	101.9649	FAIRFAX - PAWNSW4 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.10909	101.9649	FAIRFAX - PAWNSW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05628	101.3042	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07482	101.1731	OSAGE - WEBB CITY TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.055	100.7126	RAMONA - WALMART2 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07469	100.6997	P12:138:AEPW-OGE:SHIDLER4:OSAGE 4
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07469	100.6598	FAIRFAX TAP - WEBB CITY TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07469	100.6518	FAIRFAX TAP - SHIDLER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05652	100	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05658	99.9	GEN588303 1-ASGI1705-GEN0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05658	99.8	4REMNGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03979	99.5	2PRSHNGTP 69.000 - PAWYA 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05658	99	GEN301382 1-10SAGEWINDG10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.055	99	RAMONA - SOUTH FORK 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05658	98.9	40SAGEWIND 138.00 - 4REMNGTON 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07108	98.8	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.07469	98.7	OSAGE - WEBB CITY TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05649	98.3	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03229	98.2	2GETTYTAP 69.000 - PAWNEE 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05675	97.9	GEN588303 1-ASGI1705-GEN0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05675	97.8	4REMNGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.07082	97.6	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05628	97.6	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03988	97.4	2PRSHNGTP 69.000 - PAWYA 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05675	97	GEN301382 1-10SAGEWINDG10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05675	96.9	40SAGEWIND 138.00 - 4REMNGTON 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.07111	96.8	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.07111	96.8	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05661	96.6	BURBANK - FAIRFAX 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03981	96.5	2PRSHNGTP 69.000 - PAWYA 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05652	96.3	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05362	96.2	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05342	95.3	4SFORKK 138.00 138/69KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	64	64	0.05342	95.3	4SFORKK 138.00 - 4SFORKKTP 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03242	95.3	2GETTYTAP 69.000 - PAWNEE 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.03242	95.3	2GETTYTAP 69.000 - PAWNEE 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	FAIRFAX 138/69KV TRANSFORMER CKT 1	56	56	0.05564	95.2	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03242	142.7354	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03237	141.7887	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03205	141.6153	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03199	139.9603	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	136.8098	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03265	133.0797	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03242	132.0457	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03205	131.8402	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03092	131.3592	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03092	131.0294	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03092	130.8393	P12:069:WERE:BELL-CRSW_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03169	130.4706	TIMBER JUNCTION - UDALL 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03169	130.2396	P12:069:WERE:TIMJ-WEAV_69::
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	129.7029	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03169	129.484	RICHLAND - UDALL 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	129.4058	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	129.2831	P12:069:WERE:BELL-CRSW_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03401	128.8357	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	128.5128	TIMBER JUNCTION - UDALL 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	128.2661	P12:069:WERE:TIMJ-WEAV_69::

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03169	128.1833	RICHLAND - ROSE HILL JUNCTION 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03092	128.0807	CITY OF WELLINGTON - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	127.9573	CITY OF WELLINGTON - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	127.2646	RICHLAND - UDALL 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03401	126.8907	MDFRDTP4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03376	126.6869	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03169	126.6129	ROSE HILL JUNCTION - WEAVER 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	126.5072	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	125.917	RICHLAND - ROSE HILL JUNCTION 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03092	125.5937	BELL - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03376	124.8172	MDFRDTP4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	124.429	BELL - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03092	124.2146	BELL - PECK 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0314	124.1095	ROSE HILL JUNCTION - WEAVER 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03092	124.0883	P12:069:WERE:BELL-MURR_69::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03192	123.7054	TIMBER JUNCTION - UDALL 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03192	123.3489	P12:069:WERE:TIMJ-WEAV_69::
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03114	123.299	CITY OF WELLINGTON - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	122.8818	BELL - PECK 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	122.7543	P12:069:WERE:BELL-MURR_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03092	122.6596	GILL ENERGY CENTER WEST - PECK 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03192	121.7521	RICHLAND - UDALL 69KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03242	121.5284	OPENSKY7 345.00 - RANCHRD7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03205	121.4675	OPENSKY7 345.00 - RANCHRD7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03064	121.1493	GILL ENERGY CENTER WEST - PECK 69KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03724	121.0435	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03114	120.9243	CRESWELL - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03114	120.7904	P12:069:WERE:BELL-CRSW_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03259	120.7757	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03259	120.7372	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03114	120.4994	CITY OF WELLINGTON - SUMNER COUNTY NO. 4 ROME 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03192	119.7678	RICHLAND - ROSE HILL JUNCTION 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03199	119.5346	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03424	119.4555	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03233	119.2854	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03233	119.2569	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03747	119.2437	SOONER (SOONER5) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03699	119.2387	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03114	119.1216	BELL - SUMNER COUNTY NO. 3 MILLER 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03192	117.1954	ROSE HILL JUNCTION - WEAVER 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03424	117.0154	MDFRDTP4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03114	116.9598	BELL - PECK 69KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03114	116.7821	P12:069:WERE:BELL-MURR_69::
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03257	116.7709	OSAGE - SOONER PUMP TAP 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03257	116.6964	SOONER - SOONER PUMP TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.0327	116.2859	OPENSKY7 345.00 - RANCHRD7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.033	114.9126	CHIKASKIA - KILDARE4 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03188	114.8673	DMNCRKT4 - WHITE EAGLE 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03188	114.7132	DMNCRKT4 - MILLER 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03188	114.602	MILLER - SOONER 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03233	114.4818	OSAGE - SOONER PUMP TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03114	114.4607	GILL ENERGY CENTER WEST - PECK 69KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03233	114.4107	SOONER - SOONER PUMP TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03276	113.3312	CHIKASKIA - KILDARE4 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03401	113.2578	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03401	113.25	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03745	113.1656	4REMINGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03279	113.1609	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03279	113.1193	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03279	112.1048	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03376	111.1287	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03376	111.1205	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03251	109.9133	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03232	108.3329	DMNCRKT4 - WHITE EAGLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03232	108.0954	DMNCRKT4 - MILLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03232	107.9352	MILLER - SOONER 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03277	107.8831	OSAGE - SOONER PUMP TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03277	107.7755	SOONER - SOONER PUMP TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03322	107.2714	CHIKASKIA - KILDARE4 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.02951	105.4498	WEAVER (WEAV TX-2) 138/69/13.2KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03424	103.9212	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03424	103.913	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03205	102.325	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03242	102.0071	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1	160	160	0.03301	101.0168	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06141	146.4453	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06195	141.3663	SOONER - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06195	141.2263	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06141	139.2209	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06544	136.8827	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06544	136.737	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06856	136.1803	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06156	135.6607	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0704	133.5373	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06591	132.1637	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06591	131.9747	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06084	130.8035	SOONER - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03818	130.7995	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06084	130.6584	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03726	130.2207	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06156	128.533	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04063	128.0272	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06867	126.3504	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03814	126.1838	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03818	126.1578	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03726	125.4312	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06036	125.11	NORTHWEST - SPRING CREEK 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05515	123.5083	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05515	123.5083	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04063	123.5036	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03752	123.2716	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03467	122.2794	DBL-THIS-WWR
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	121.9585	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0552	121.9585	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04293	121.85	DBL-THIS-G15
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03814	121.8087	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03739	121.5326	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03495	121.1808	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04417	120.771	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05761	120.7425	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05761	120.7425	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03188	119.8681	DBL-TGA-MATT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05708	119.2638	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05506	119.2059	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05506	119.2059	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04568	119.2047	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04568	119.1889	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03752	118.6745	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04163	118.3727	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04144	118.3502	P12:138:OKGE:3TERM2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03068	118.2539	DBL-TGA-MATT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04454	118.2345	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06036	118.0674	SOONER - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04568	117.8998	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04733	117.4467	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06081	117.4234	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04426	117.2388	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	117.2227	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04685	117.1914	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04259	117.1632	P12:138:OKGE:3TERM2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03739	117.1064	G15066_T 345.00 - SOONER 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03795	116.7054	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04346	116.7038	P12:138:WFEC:MSL15
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04349	116.3338	DBL-THIS-G15
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04491	116.28	P12:138:OKGE:3TERM1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04502	116.158	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04502	116.0386	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03495	115.997	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04797	115.9196	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04502	115.8976	DOVER SW - HENESSEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04426	115.7315	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04695	115.6645	G16-032-TAP 345.00 138KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05447	115.589	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05447	115.589	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04817	115.501	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04817	115.4944	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04342	115.4764	RENFROW4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04342	115.3924	RENFROW4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04498	115.381	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04523	115.3124	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	115.2708	GEN501801 1-DOLET HILLS UNIT1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04377	115.2658	P12:138:WFEC:MSL15
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04733	115.2261	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04346	115.1828	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03957	115.1268	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	115.0769	GEN336821 1-GRAND GULF UNIT
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03957	115.0707	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04346	115.0221	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0462	114.9797	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0462	114.9785	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04541	114.9746	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03495	114.9738	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04329	114.9467	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03957	114.8629	KINZE - MCELROY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.8624	GEN336153 1-WATERFORD UNIT#3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04541	114.8601	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04428	114.8215	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0441	114.7908	P12:138:OKGE:3TERM2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.7586	GEN515040 1-SEMINOLE 1G
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04519	114.7194	P12:138:OKGE:3TERM1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04417	114.7182	MARSHALL - WOODRING 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04895	114.7103	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04202	114.7053	P12:138:WERE:CRSW-OGE_138::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04895	114.6946	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04541	114.6604	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.6531	GEN509416 1-TURK GENERATION
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.6319	GEN335831 1-RIVERBEND UNIT#1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04417	114.6316	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04194	114.6038	P12:138:OKGE:3TERM47
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04532	114.5223	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.4936	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04541	114.4915	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04541	114.4908	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	114.4761	GEN515040 1-SEMINOLE 1G
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04373	114.4688	RENFROW4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04461	114.4553	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04353	114.4474	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.4337	GEN525562 1-TOLK GEN #2 24 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.4309	GEN525561 1-TOLK GEN #1 24 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03585	114.4231	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.4109	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04982	114.3816	G15052_T 345.00 - ROSE HILL 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04523	114.3703	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.3472	GEN509403 1-PIRKEY GENERATION
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04426	114.3447	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04541	114.3415	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04532	114.3388	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06856	114.3249	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04373	114.2854	RENFROW4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04346	114.2611	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04817	114.2433	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.2283	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.2219	GEN501813 1-RODEMACHER UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.2141	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03666	114.1918	DBL-THIS-WWR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04598	114.1515	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	114.1451	GEN515042 1-SEMINOLE 3G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04478	114.1417	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04478	114.1417	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.1379	GEN509406 1-WELSH #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.1378	GEN509404 1-WELSH #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04133	114.1335	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04133	114.1335	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04532	114.1217	DOVER SW - HENESSEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04317	114.115	P12:138:WFEC:MSL14
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.1087	GEN515042 1-SEMINOLE 3G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04317	114.1022	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04483	114.0859	P12:138:OKGE:3TERM2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04501	114.0848	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.0805	GEN335206 1-NELSON UNIT 6
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04353	114.0693	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05674	114.0686	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04337	114.0671	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04337	114.0671	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.0652	GEN520947 1-HUGO1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04294	114.0495	MORISNT4 138.00 - SOONER 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.0362	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	114.0287	GEN515041 1-SEMINOLE 2G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	114.0117	GEN515041 1-SEMINOLE 2G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04317	113.9972	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04543	113.9867	P12:138:OKGE:3TERM11
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04339	113.9811	LACYGNE - STILWELL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04092	113.9765	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04092	113.9765	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04092	113.9765	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04092	113.9765	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04284	113.9575	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04284	113.9575	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04377	113.9453	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.9394	GEN501812 1-RODEMACHER UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04361	113.9393	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.9306	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03597	113.9084	DBL-THIS-WWR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0462	113.9024	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04233	113.8884	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04233	113.8884	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04687	113.8784	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03094	113.8533	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0404	113.8441	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.836	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04317	113.8249	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04488	113.8077	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.7896	GEN514910 2-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04488	113.7814	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0427	113.775	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0427	113.775	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.7654	GEN587387 1-G16-057-GEN20.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.7653	GEN587383 1-G16-045-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04488	113.7653	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04172	113.7651	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04172	113.7651	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03637	113.7646	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03637	113.7646	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.7627	GEN587303 1-G16-045-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.7627	GEN587307 1-G16-045-GEN20.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03637	113.7606	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03637	113.7606	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04346	113.7576	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04269	113.7565	DEWEY - SOUTHARD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.7561	NEW MADRID 161/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05449	113.7514	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05449	113.7514	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.7463	NEW MADRID 345/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04325	113.7462	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04325	113.7462	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04344	113.7378	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0404	113.7335	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04377	113.7284	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.7274	GEN514911 2-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04211	113.7274	COW CREEK - MORRISON 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.7273	GEN514942 2-REDBUD4G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.7169	GEN334440 1-SABINE UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04211	113.7103	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04415	113.7077	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04797	113.7023	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04329	113.6969	P12:138:AEPW:OKMULGE4:R.S.S-4

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04284	113.6724	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.6663	GEN514940 1-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04018	113.6641	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04018	113.6641	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.6597	GEN514900 1-REDBUD2S
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.6596	GEN514899 1-REDBUD1S
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04346	113.6555	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04475	113.6533	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04475	113.6533	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.06909	113.6416	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.6318	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04269	113.6212	ROMAN NOSE - SOUTHWARD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04343	113.6198	DBL-SPRVL-IR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.6191	GEN527901 1-HOBBS PLANT #1 (CT)
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.619	GEN527902 1-HOBBS PLANT #2 (CT)
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04392	113.6087	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.6075	GEN514905 1-REDBUD3S
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04297	113.607	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04297	113.607	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04222	113.6065	3TR3AR8EL7EL
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04222	113.6065	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04222	113.6007	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.5814	DELL 500 - ESSEX UNIT 2 500KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.5801	GEN509409 1-WILKES #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.5717	P12:069:OKGE:3TERM4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04376	113.5714	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04258	113.5678	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04258	113.5678	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.5643	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.557	GEN523972 1-HARRINGTON GEN #2 24 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.557	GEN523973 1-HARRINGTON GEN #3 24 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.5569	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0427	113.5436	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0427	113.5436	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04414	113.5418	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.5254	GEN336831 1-BAXTER WILSON SES
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.517	GEN335204 1-NELSON UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04329	113.5082	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.5061	GEN526331 1-JONES GEN #1 22 KV
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04369	113.4924	VIOLA 7 345.00 (VIOLA 1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04299	113.4851	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04299	113.4851	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.4792	GEN511851 1-COMANCHE #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.4777	GEN334441 1-SABINE UNIT 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.4715	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.4697	GEN334071 1-LEWIS CREEK 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.4662	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.4639	GEN334070 1-LEWIS CREEK 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04411	113.4609	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0431	113.4592	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0431	113.4592	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04345	113.458	PECULIAR - STILWELL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.4409	GEN562587 1-G14_056_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03859	113.4315	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03859	113.43	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04895	113.4271	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0368	113.4245	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	113.4154	GEN336821 1-GRAND GULF UNIT
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.4133	GEN587233 1-G16-037-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.4088	GEN501811 1-RODEMACHER UNIT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.4038	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04411	113.4022	P13:069-138:WERE:ELPA_TX-1::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	113.3927	GEN501801 1-DOLET HILLS UNIT1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3899	GEN521110 1-ORME1 13.800
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3899	GEN521111 1-ORME2 13.800

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04411	113.3886	EL PASO - FARBER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3832	GEN334433 1-SABINE UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3806	GEN303007 1-1BC2 U2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3789	GEN303006 1-1BC2 U1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3787	GEN337041 1-GERALD ANDRUS
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3749	GEN334031 1-FRONTIER UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04329	113.3717	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04329	113.3716	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3714	GEN334030 1-FRONTIER UNIT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04974	113.3711	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3704	GEN515602 1-KNGFSR12 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3659	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3654	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04974	113.36	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3577	FRONTIER - GRIMES 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04974	113.3505	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04284	113.3496	CRESENT - TWIN LAKES 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03996	113.3477	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3453	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04355	113.342	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04609	113.3412	P12:138:WFEC:MSL15
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04282	113.3357	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3336	GEN303008 1-1BC2 U3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03698	113.3318	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3302	GEN520811 1-ANADRK4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04139	113.3208	MUSKOGEE - SEMINOLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3191	GEN336464 1-MICHOUD UNIT #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04974	113.3182	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3167	GEN336170 1-GULF OXY U4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3167	GEN527163 1-MUSTANG GEN #3 22 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04329	113.3148	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04288	113.3135	P12:069:OKGE:3TERM3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04247	113.3084	WEBRE - WELLS 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3069	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04396	113.3043	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.3032	GEN515226 1-MUSKOGEE 6G

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	113.3014	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	113.2984	P12:138:WFEC:MSL10
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2959	GEN515443 1-MNCOWND1 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04974	113.2868	DOMES - MOUND ROAD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04278	113.2843	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2842	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2839	GEN521112 1-ORME3 13.800
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	113.2824	PHAROAH - WETUMKA4 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05604	113.2808	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2773	GEN527162 1-MUSTANG GEN #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2773	GEN527161 1-MUSTANG GEN #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04284	113.2755	COTTONWOOD CREEK - CRESENT 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04273	113.2699	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	113.2624	P12:138:WFEC:MSL13
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	113.2606	PARAGON4 138.00 - WETUMKA4 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04341	113.2602	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2588	GEN511853 1-COMANCHE #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	113.2587	PARAGON4 138.00 - TRNCNDACV4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04484	113.2583	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04319	113.2582	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04319	113.2582	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04581	113.2544	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2541	GEN501910 1-ACADIA UNIT ST1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04733	113.2522	OPENSKY7 345.00 - RANCHRD7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2473	GEN515225 1-MUSKOGEE 5G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2471	GEN515223 1-MUSKOGEE 4G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04301	113.2446	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04301	113.2446	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2439	GEN511852 1-COMANCHE #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2432	GEN520812 1-ANADRK5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.2431	GEN520813 1-ANADRK6
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04539	113.2412	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05135	113.241	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05135	113.241	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0432	113.2366	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04666	113.2317	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.2287	GEN526332 1-JONES GEN #2 21 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.2257	GEN562590 1-G14_057_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04303	113.2185	OKEENE - WATONGA SW 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.2182	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.2177	RODEMACHER 230/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.2126	GEN515607 1-CANDN12 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.2126	GEN515606 1-CANDN11 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04446	113.2096	CLEVELAND - SILVER CITY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04429	113.2067	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04341	113.2051	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04341	113.2051	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04269	113.2001	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04921	113.1978	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04921	113.1978	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.03068	113.1891	DBL-G1151-TG
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04484	113.1869	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.1717	P12:138:WFEC:MSL09
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.1712	P12:161:AEPW:EROGERS5:ECNTRTN5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.1674	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04322	113.1671	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.166	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.1637	GEN336222 1-LITTLE GYPSY UNIT#2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04334	113.162	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0431	113.162	KETCH - KETCH TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04286	113.1612	P12:161:AEPW:DYESS5:ELMSPRNG:TONTITN5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.1598	GEN337766 1-TRACTEBEL UNIT S1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.1557	GEN501970 1-EVANGELINE UNIT 7
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04274	113.1511	CROMWELL - TRNCNDACV4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04329	113.1502	BOWMAN - KINGINDT2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04429	113.1467	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	113.1461	GEN336153 1-WATERFORD UNIT#3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.1429	GEN336152 1-WATERFORD UNIT#2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1426	GEN563062 1-G15071_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1421	GEN336151 1-WATERFORD UNIT#1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1409	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0427	113.1408	P12:161:AEPW-SWPA:BEAVER5:EROGERS5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	113.1406	AXTELL - G16-050-TAP 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04297	113.1322	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04329	113.1319	KNGINDT2 69.000 - OKRCHET2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1317	GEN509393 S1-ARSENAL HILL GENS #4 (STALL)
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1317	GEN506754 1-LEBROCK STEAM 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1282	GEN334392 1-EXXON MOBIL IPP 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1279	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1279	ST FRANCIS 161/16.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1258	GEN334394 1-EXXON MOBIL IPP 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1258	GEN334393 1-EXXON MOBIL IPP 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04239	113.1254	FULTON 115 - HOPE 115KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04239	113.1254	FULTON 115 - HOPE 115KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04308	113.123	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1221	GEN503909 1-FULTONU1 1 16.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	113.1208	CROMWELL - WEWOKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.044	113.1197	4WOODY 138.00 - BRISTOW 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04324	113.1196	P12:138:GRDA:STILLWATER-VALLEY
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04346	113.117	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04376	113.1169	CUSHING - GRNWOOD4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1152	GEN501972 1-EVANGELINE UNIT 7-2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1152	GEN501971 1-EVANGELINE UNIT 7-1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04415	113.1144	P12:138:WERE:CRSW-SUMN_138::
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04921	113.1127	P12:138:AEPW:BV-COM-4:BV-SE--4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04523	113.1127	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04523	113.1127	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.11	GEN527882 1-CUNNINGHAM GEN #2 20 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	113.1079	GEN336242 1-1NMIL ST1 18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	113.1079	DOVER - DOVER SW 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04129	113.1075	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04129	113.1075	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04129	113.1075	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04129	113.1075	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04415	113.107	CRESWELL - OXFORD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.105	GEN334432 1-SABINE UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.1049	GEN334431 1-SABINE UNIT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04278	113.1046	P13:069-138:WERE:BUTL_TX-1::
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.1045	GEN501912 1-ACADIA UNIT CT1B
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.104	GEN501911 1-ACADIA UNIT CT1A
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.1037	GEN514912 2-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04415	113.1035	OXFORD - SUMNER 4 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04278	113.1035	ALTOONA - BUTLER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	113.1023	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0981	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0979	GEN337764 1-TRACTEBEL UNIT C1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0979	GEN337765 1-TRACTEBEL UNIT C2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0402	113.0972	CHIKASKIA - KILDARE4 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04302	113.097	NEOSHO - SUB 452 - RIVERTON 161KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04248	113.0938	6LAYFLD 230.00 - CARROLL 230KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0873	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0873	ST FRANCIS 2 161/16.0KV TRANSFORMER CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04346	113.0845	RAMSEY - VALLEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0827	GEN523462 1-BLACKHAWK GEN #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0826	GEN563272 1-G15093_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0826	GEN523461 1-BLACKHAWK GEN #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04346	113.0825	VALLEY 138/69KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04286	113.0789	DOVER - TWIN LAKES 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04386	113.0783	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04386	113.078	WOODWARD - WWPAR4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0778	GEN560105 1-G08-22 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04329	113.0765	EL RENO - OKRCHET2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04282	113.076	CYPRESS - HARTBURG 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04425	113.0754	4WOODY 138.00 - PHAROAH 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04425	113.0754	4WOODY 138.00 - PHAROAH 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04301	113.075	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0427	113.0743	MC NIEL 500/115KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	113.0739	GEN514939 1-HORSESHOE LAKE 8G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04298	113.0724	5LOCSTGV - MAID 161KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04298	113.0724	5LOCSTGV - MAID 161KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.072	GEN337430 1-PERYVILLE UNIT #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0714	GEN337428 1-PERYVILLE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.065	GEN562602 1-G15_029_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04461	113.064	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	113.0605	GEN562550 1-G14_040_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04192	113.0521	FAIRMONT TAP - WOODRING 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	113.0425	DBL-THIS-G15
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04377	112.9362	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	112.9237	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.9102	GEN335831 1-RIVERBEND UNIT#1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04133	112.8455	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04133	112.8455	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.8003	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04756	112.7766	P12:138:OKGE:3TERM1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.03188	112.7442	DBL-G1151-TG
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04768	112.6511	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04636	112.6467	DBL-THIS-G15
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	112.6439	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04354	112.6164	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04368	112.6128	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04769	112.588	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04768	112.5387	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.5167	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04403	112.4743	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.4732	GEN509416 1-TURK GENERATION
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4225	GEN549890 1-SOUTHWEST 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4213	GEN300033 1-CHOUTEAU STG 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4213	GEN300032 1-CHOUTEAU CTG 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4212	GEN300020 1-1CHOTCT4 16.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4212	GEN300021 1-1CHOTCT5 16.000

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.4199	GEN501813 1-RODEMACHER UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.05089	112.4174	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4121	GEN300011 1-ST FRANCIS UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4068	GEN541170 4-LAKERD#4 13.800
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04768	112.4054	DOVER SW - HENESSEY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4039	GEN600011 5-BLACK DOG GEN 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4038	7CALAWY 1 345.00 345/25.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04191	112.4031	P12:138:WERE:CRSW-OGE_138::
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4024	GEN672305 5-BOUNDARY DAM GENERATOR 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4024	GEN672303 3-BOUNDARY DAM GENERATOR 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4024	GEN672304 4-BOUNDARY DAM GENERATOR 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4002	RCDC EAST 4230.00 - RED CEDAR DC 230KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.4001	P12:230:UMZB:# 112 #: NU IN SD. NU-RCDC & DRY CREEK XFMR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3998	GEN600014 4-BLACK DOG GEN 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3986	GEN300031 1-CHOUTEAU CTG 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3985	GEN300024 1-1CHOTST6 16.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0428	112.3983	MCCLAIN - STHLAKE4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.398	GEN645024 4-NORTH OMAHA 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3957	GEN615032 2-PLEASANT VALLEY
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04687	112.3906	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.03863	112.3903	MARLAND TAP - OSAGE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	112.3867	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3861	GEN629071 1-BURLINGTON GENERATOR FOR UNIT NO 1 E
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	112.3861	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04289	112.3848	FAIRVIEW - OKEENE 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3825	GEN652460 4-GARRISON
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3823	BURLINGTON NO1 + NO 2 + NO 3 161/20.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3818	GEN652461 5-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04355	112.381	P12:138:WFEC:MSL14
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0428	112.381	SARA - STHLAKE4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04355	112.3804	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3803	GEN652459 3-GARRISON

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3803	GEN652457 1-GARRISON
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3803	GEN652458 2-GARRISON
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3751	GEN600017 C-LS POWER CT
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04274	112.375	CHISNEY - CLARKSVILLE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04377	112.3725	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3724	GEN652556 2-OAHE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3719	GEN652559 1-OAHE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04248	112.371	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3685	GEN652557 5-OAHE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3656	GEN629070 2-BEAVAR CHANNEL GENERATORFOR UNIT NO 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04267	112.3629	CHISHOLM7 345.00 (CHISHOLM) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3592	GEN505432 1-SIKESTON
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04333	112.3588	4LUTHERD 138.00 - LUTHER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.3525	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3499	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04224	112.3499	8BHAM STEEL 500.00 - WEST MEMPHIS 500 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3472	GEN672392 1-NBECGT1G 18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3459	GEN659353 1-DEERCREK CTG18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04291	112.3447	QUAIL CREEK - SKYLINE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3314	GEN531447 1-HOLCOMB GENERATOR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04241	112.3268	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04274	112.3208	CHISNEY - HIGHLAND 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3206	GEN615021 1-GRE-ER 14G 16.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3201	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3192	GEN590010 1-ERCOT EQUIVALENCE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04253	112.3187	TUPELO - TUPELO TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04256	112.3177	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04273	112.3173	P12:138:WFEC:MSL03
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04062	112.3146	FINNEY SWITCHING STATION - Hitchland Interchange 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3092	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.3035	GEN334440 1-SABINE UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.3033	GEN530594 1-SMKYP1G1 0.6900

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.3028	GEN529252 1-OMPA-KAW
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.3026	GEN520947 1-HUGO1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.2996	GEN590011 2-ERCOT EQUIVALENCE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04291	112.2979	MORGAN - MUSTANG 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04333	112.2941	P12:138:AECI:STROUD-LUTHER
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	112.2869	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04386	112.2832	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.283	THOMAS HILL 161/22.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04355	112.2826	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04454	112.28	MARSHALL - WOODRING 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04317	112.2788	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04291	112.2779	MORGAN - XEROX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.2767	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04291	112.2748	CZECH HALL - XEROX 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.2733	GEN549893 2-SOUTHWEST 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04301	112.2695	OVEXFRMCCOVE
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0428	112.2674	CIMARRON - SARA 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.2667	GEN335206 1-NELSON UNIT 6
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	112.265	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.2596	GEN542954 3-MONTROSE UNIT #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.2493	GEN345671 2-1RUSH G2 18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.2479	GEN345670 1-1RUSH G1 18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.2473	GEN645025 5-NORTH OMAHA 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	112.2468	HIGHLAND - PINK SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.2464	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.2454	GEN514936 1-HORSESHOE LAKE 7S
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03654	112.2373	CLEVELAND - CLEVLND 4 138.00 138KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03654	112.2373	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03654	112.2373	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.2338	GEN514998 1-MCCLAIN UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.2338	GEN514999 1-MCCLAIN UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	112.2298	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	112.2297	P12:230:AEPW-SPS:SWEETWT6:WHEELER 6

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.2296	GEN629072 4-LANSING GENERATOR FOR UNITS NO4 EIA CODE 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	112.2293	STLN-DEMAR6 - SWEETWATER 230KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.2261	GEN300001 1-THOMAS HILL UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.2186	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04291	112.2185	CIMARRON - CZECH HALL 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04377	112.204	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.1946	4REMNGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.1946	ASGI1705 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04982	112.1944	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.1886	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.1871	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04605	112.1862	RENFROW4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.1857	GEN659110 1-LELAND OLDS UNIT1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.1768	4OSAGEWIND 138.00 138/34.5KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03068	112.1752	DBL-WWRD-G11
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.1727	4OSAGEWIND 138.00 - 4REMNGTON 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04454	112.165	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0434	112.1638	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0434	112.1638	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04192	112.163	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04429	112.1582	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04429	112.1582	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.153	CLAY BOSWELL 230/20.9KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.1496	GEN681522 3-GENOA 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.147	GEN501812 1-RODEMACHER UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.1456	GEN657749 1-YOUNG 1 GENERATOR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	112.1374	P12:069:OKGE:3TERM4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	112.1372	GEN641089 2-ENERGY CENTER 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04355	112.1354	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04295	112.1316	ARCADIA - NORTHWEST 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	112.1304	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.1238	GEN562892 1-G15048_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04265	112.1191	DBL-HTCH-OTA
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04368	112.1147	NOEL_SW 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.1145	4SIOUX 1 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0429	112.1141	G1524G1525 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0429	112.1141	G1524G1525 345.00 - WICHITA 345KV CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.1108	GEN344895 2-1LAB G2 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.1087	GEN336831 1-BAXTER WILSON SES
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04094	112.1084	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04416	112.1065	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.0909	GEN334441 1-SABINE UNIT 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.0906	GEN344896 3-1LAB G3 20.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.0895	GEN344894 1-1LAB G1 20.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.0887	GEN344897 4-1LAB G4 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.0856	GEN515000 1-MCCLAIN UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04581	112.0853	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.079	DELL 500 - ESSEX UNIT 2 500KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04393	112.0699	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04511	112.0682	4MEMORAL 138.00 - LUTHER 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.0614	GEN530690 1-PRWINDG1 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.0548	GEN512689 1-GRDA1 GSU1 22
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04605	112.05	RENFROW4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.0447	GEN509403 1-PIRKEY GENERATION
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04529	112.0387	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04203	112.0331	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	112.0325	GEN335204 1-NELSON UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04206	112.0271	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04206	112.0271	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04286	112.0215	P12:138:AEPW:CORNVL4:DUNCAN-4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04581	112.0199	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.0097	GEN509394 1-FLINT CREEK
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.0091	GEN300006 1-NEW MADRID UNIT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.0034	GEN672321 1-SHAND GENERATOR 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	112.0008	GEN300002 1-THOMAS HILL UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	111.9995	GEN300007 1-NEW MADRID UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04548	111.9981	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.9958	GEN509406 1-WELSH #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.9955	GEN509404 1-WELSH #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04581	111.9918	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	111.9887	GEN511840 1-NORTHEASTERN STATION #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	111.9861	GEN672311 2-POPLAR RIVER GENERATOR 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	111.9861	GEN672310 1-POPLAR RIVER GENERATOR 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	111.9786	GEN672306 6-BOUNDARY DAM GENERATOR 6
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04274	111.974	FRANKLIN - PINK SW 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04581	111.9684	MIDLTNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	111.9664	ALMA 161 161/24.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04511	111.9646	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04511	111.9646	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04511	111.9592	P12:138:AECI:LUTHER-JONES
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04201	111.9503	HUGO - VALLIANT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04201	111.9503	HUGO - VALLIANT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.9469	GEN334433 1-SABINE UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	111.9415	GEN560248 1-G10_003_2 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.9401	GEN337041 1-GERALD ANDRUS
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	111.9398	GEN532957 1-WAVERGEN1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04261	111.9374	COW CREEK - MORRISON 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	111.9367	GEN681542 6-JP MADGETT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04389	111.9339	LACYGNE - STILWELL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04104	111.9306	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04104	111.9306	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04368	111.9297	G15095_T 138.00 - ROSE VALLEY 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04503	111.9214	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04387	111.9194	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.9167	GEN514910 2-REDBUD GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.9164	GEN514911 2-REDBUD GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.9164	GEN514942 2-REDBUD4G

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	111.9106	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.9072	GEN546702 1-NM GEN N1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.901	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.8913	GEN514912 2-REDBUD GEN
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04062	111.8858	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04062	111.8858	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.8847	GEN512688 2-GRDA1 GSU2 22
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.8844	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04367	111.883	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04367	111.883	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04387	111.8783	P12:138:WERE:MURR-MKEC_138P::
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0704	111.8764	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.8749	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.8709	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04275	111.8694	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04275	111.8694	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.8637	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.8589	GEN587387 1-G16-057-GEN20.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.8588	GEN587383 1-G16-045-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.8566	GEN587307 1-G16-045-GEN20.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.8565	GEN587303 1-G16-045-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.8527	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04609	111.8391	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	111.8341	GEN501801 1-DOLET HILLS UNIT1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04466	111.8283	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.822	GEN336464 1-MICHOUD UNIT #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.8059	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04088	111.8031	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04752	111.8013	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04461	111.799	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.7971	GEN514940 1-REDBUD GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.7914	GEN514905 1-REDBUD3S
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.7908	GEN514900 1-REDBUD2S

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.7907	GEN514899 1-REDBUD1S
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.7901	GEN562694 1-G15_016_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04352	111.7863	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04352	111.7863	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	111.7845	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.7725	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04551	111.7718	P12:138:OKGE:3TERM11
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04773	111.7547	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	111.7527	P12:069:OKGE:3TERM3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.7513	GEN661015 1-COYOTE
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03188	111.7486	DBL-WWRD-G11
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04366	111.7478	P12:138:AEPW:OKMULGE4:R.S.S-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04391	111.746	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.7394	GEN587333 1-G16-048-GEN10.5200
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04373	111.7377	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04365	111.7359	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04168	111.724	LYDIA - WELSH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04168	111.724	LYDIA - WELSH 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04258	111.7233	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04461	111.7158	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04466	111.7149	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04319	111.71	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0447	111.708	IMO TAP - MEN TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.7069	GEN588303 1-ASGI1705-GEN0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.7062	P12:161:AEPW:DYESS5:ELMSPRNG:TONTITN5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.706	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.7026	GEN334071 1-LEWIS CREEK 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.7026	GEN334070 1-LEWIS CREEK 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.693	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.688	GEN587213 1-G16-032-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.6879	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.6864	GEN620315 1-BIG STONE GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.6818	GEN336222 1-LITTLE GYPSY UNIT#2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.676	GEN511851 1-COMANCHE #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04797	111.6703	OPENSKY7 345.00 - RANCHR7D 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.6625	GEN301382 1-10SAGEWINDG10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.6612	GEN515483 1-BLKWLWD1 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.6553	GEN657748 1-YOUNG 2 GENERATOR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04377	111.6514	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04806	111.6502	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04609	111.6502	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.6449	GEN336152 1-WATERFORD UNIT#2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.6449	GEN336151 1-WATERFORD UNIT#1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04088	111.6334	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0447	111.6262	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.6245	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03859	111.6225	MDFRDTP4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04375	111.6206	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04375	111.6206	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04283	111.6172	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04152	111.6157	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.6075	GEN659111 2-LELAND OLDS UNIT2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	111.6073	GEN336821 1-GRAND GULF UNIT
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04219	111.6059	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04365	111.6044	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04365	111.6043	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.6031	GEN501811 1-RODEMACHER UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.6016	GEN303007 1-1BC2 U2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04624	111.6009	P12:138:WFEC:MSL15
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.6	GEN303006 1-1BC2 U1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04282	111.594	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04364	111.59	CLEARWATER - VIOLA 4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.5898	GEN600004 2-PRAIRIE ISLAND G2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.5894	GEN636641 1-LOUISA UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04453	111.5891	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.5878	GEN600003 1-PRAIRIE ISLAND G1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.042	111.5765	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.5764	GEN600006 1-AS KING

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04315	111.5763	JOHNSON COUNTY - PITTSBURG 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04315	111.5763	JOHNSON COUNTY - PITTSBURG 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04394	111.5755	FPL SWITCH - WOODWARD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04169	111.5674	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04169	111.5674	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0434	111.5623	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0434	111.5623	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5599	GEN562587 1-G14_056_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5595	GEN587233 1-G16-037-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.5559	GEN515622 1-KAYWND11 0.7000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04219	111.5532	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.552	GEN303008 1-1BC2 U3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	111.5471	P12:138:WFEC:MSL10
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5439	GEN334030 1-FRONTIER UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.042	111.5438	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04666	111.5435	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5426	GEN334031 1-FRONTIER UNIT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04806	111.5413	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	111.5401	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04327	111.5386	P12:161:AEPW:EROGERS5:ECNTRTN5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	111.5373	GEN515040 1-SEMINOLE 1G
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.5372	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5326	GEN336170 1-GULF OXY U4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	111.53	PHAROAH - WETUMKA4 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04394	111.5284	DOVER SW - OKEENE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.5264	GEN515623 1-KAYWND12 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.5239	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5232	GEN511847 1-SOUTHWESTERN STATION #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0447	111.5212	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	111.5204	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	111.5203	3TR3AR8EL7EL
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	111.5198	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04365	111.517	BOWMAN - TURCRKT2 69.000 69KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5153	GEN520812 1-ANADRK5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5153	GEN520813 1-ANADRK6
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5106	FRONTIER - GRIMES 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5079	GEN521110 1-ORME1 13.800
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.5079	GEN521111 1-ORME2 13.800
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	111.5065	PARAGON4 138.00 - WETUMKA4 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04227	111.5056	FAIRMONT TAP - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	111.5052	PARAGON4 138.00 - TRNCNDACV4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0419	111.5041	MUSKOGEE - SEMINOLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.5031	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.5031	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03955	111.501	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03955	111.4994	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4992	GEN509409 1-WILKES #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04312	111.4906	P12:161:AEPW-SWPA:BEAVERS5:EROGERS5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0434	111.4903	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0434	111.4903	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4899	GEN514883 1-SPRING CREEK UNIT 3 AND 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4853	GEN514882 1-SPRING CREEK UNIT 1 AND 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4851	GEN515602 1-KNGFSR12 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.4819	GEN635213 3-NEAL UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04362	111.4818	P12:138:MKEC:HARPER-CLEARWATER::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04402	111.4807	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04362	111.4805	P12:138:WERE:CLWA-MKEC_138F::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04362	111.4771	CLEARWATER - MILAN TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04258	111.4767	G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0444	111.476	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0444	111.4759	WOODWARD - WWPAR4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04372	111.4748	DBL-SPRVL-IR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.4729	GEN600005 1-MONTICELLO
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4694	GEN511846 1-SOUTHWESTERN STATION #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4692	GEN514890 1-SMITH 1G
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04318	111.4685	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4682	GEN511853 1-COMANCHE #3

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4631	GEN511850 1-SOUTHWESTERN STATION #5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4631	GEN511849 1-SOUTHWESTERN STATION #4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05692	111.4606	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4585	GEN334432 1-SABINE UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4583	GEN334431 1-SABINE UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4575	GEN509398 1-KNOXLEE #5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.456	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	111.4555	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4541	GEN501910 1-ACADIA UNIT ST1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4526	GEN511852 1-COMANCHE #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04601	111.4519	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04494	111.4458	KNIFE 4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	111.4441	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04152	111.4416	G16-063-TAP 345.00 - HUGO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.042	111.4411	KINZE - MCELROY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04378	111.4392	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04378	111.4392	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.4374	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04363	111.4336	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4328	GEN521112 1-ORME3 13.800
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4255	GEN515443 1-MNCOWND1 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04028	111.4253	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03972	111.4239	DBL-THIS-WWR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04347	111.4232	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04218	111.4226	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04218	111.4226	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	111.4224	GEN336153 1-WATERFORD UNIT#3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04318	111.4216	DEWEY - SOUTHARD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0446	111.4203	P12:138:WERE:CRSW-OGE_138::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04394	111.4126	FPL SWITCH - MOORELAND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0443	111.4102	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.4097	GEN520811 1-ANADRK4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04494	111.4087	KNIFE 4 138.00 - TRYON 4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04402	111.4081	P13:069-138:WERE:ELPA-TX-1::

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04353	111.4019	GILL ENERGY CENTER SOUTH - VIOLA 4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04181	111.3999	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	111.3902	CROMWELL - TRNCNDACV4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04383	111.3883	PECULIAR - STILWELL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.385	GEN563182 1-G15083_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3816	RODEMACHER 230/22.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3759	GEN337757 1-DUKE HOTSPRINGS STG1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3753	GEN337766 1-TRACTEBEL UNIT S1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04402	111.3749	EL PASO - FARBER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04428	111.3746	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	111.3737	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3733	GEN501823 1-TECHE UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	111.3718	CROMWELL - WEWOKA 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3704	GEN336221 1-LITTLE GYPSY UNIT#1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3704	GEN562590 1-G14_057_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	111.3684	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04219	111.3611	KINZE - MCELROY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.3594	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03859	111.3561	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3557	GEN338388 1-1PLUM PT U1 23.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3513	GEN514897 1-SMITH 1S
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04806	111.3487	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3466	GEN501970 1-EVANGELINE UNIT 7
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0434	111.3462	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3458	SABINE 230/24.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3454	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3418	GEN515607 1-CANDN12 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3418	GEN515606 1-CANDN11 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04507	111.3414	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04507	111.3414	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.3409	GEN600001 2-SHERBURNE CNTY G2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0499	111.3404	DOMES - MOUND ROAD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3374	GEN336446 1-MICHOUD UNIT #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04126	111.3335	LYDIA - VALLIANT 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04126	111.3335	LYDIA - VALLIANT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3332	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04487	111.3262	CLEVELAND - SILVER CITY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0429	111.3242	DRAPER LAKE - SEMINOLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0429	111.3242	DRAPER LAKE - SEMINOLE 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	111.3204	LACYGNE - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04313	111.3202	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04329	111.3184	ACORN 4 138.00 - JONESSB4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3178	GEN563062 1-G15071_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04335	111.3169	ALVA - ALVA 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3162	P12:138:WFEC:MSL09
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3145	GEN509408 1-WILKES #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.313	P12:69:AEPW:NROGERS2:ECNTRTN2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3114	GEN334392 1-EXXON MOBIL IPP 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04192	111.3114	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04192	111.3114	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04192	111.3114	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04192	111.3114	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05134	111.3111	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3103	GEN336242 1-1NMIL ST1 18.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	111.3095	P12:138:AEPW:MOHAWK4:T.NO--4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3093	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04345	111.309	GOLTYTP2 69.000 - IMO 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3086	GEN337765 1-TRACTEBEL UNIT C2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3086	GEN337764 1-TRACTEBEL UNIT C1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3083	GEN338443 1-PANDA S1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3081	GEN334393 1-EXXON MOBIL IPP 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3081	GEN334394 1-EXXON MOBIL IPP 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04289	111.306	WEBRE - WELLS 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3056	GEN501972 1-EVANGELINE UNIT 7-2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3056	GEN501971 1-EVANGELINE UNIT 7-1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.3024	P12:138:WFEC:MSL13
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.3008	GEN563082 1-G15073_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.2995	GEN501912 1-ACADIA UNIT CT1B
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.299	GEN501911 1-ACADIA UNIT CT1A

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04345	111.2925	GOLTYTP2 69.000 - HELENA TAP 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.2905	GEN335612 1-WILLOW GLENN UNIT#2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.2893	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04342	111.2883	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04342	111.2883	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.2873	P12:138:AEPW:BA_71ST4:T.S.E.-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04281	111.2867	FULTON 115 - HOPE 115KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04281	111.2867	FULTON 115 - HOPE 115KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04448	111.2858	P12:138:OKGE:3TERM47
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.2832	GEN562602 1-G15_029_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0436	111.2819	P13:138-161:WERE:NSES_TX-40R5::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04402	111.2817	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04226	111.279	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.2775	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.2774	SABINE 230/22.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04193	111.2767	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.2749	P12:138:AEPW:YARCH-S4:T.S.E.-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04345	111.2748	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04542	111.2738	TRYON 4 138.00 - WARWICK 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.2726	GEN337430 1-PERYVILLE UNIT #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04943	111.2722	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04943	111.2722	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.2721	GEN337428 1-PERYVILLE UNIT #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0434	111.2718	5LOCSTGV - MAID 161KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04402	111.2692	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04345	111.2673	CRAIG - WEST GARDNER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04379	111.2656	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0434	111.2647	5CDRCRST 161.00 - 5LOCSTGV 161KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0434	111.2635	P12:161:GRDA:MAID-CEDARCREST
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04343	111.2617	KETCH - KETCH TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04207	111.2549	P12:138:OKGE:3TERM2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0431	111.2545	MC NIEL 500/115KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04336	111.2535	P12:138:WERE:HOOV-MURR_138::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	111.2517	GEN336240 1-1NMIL CT1 18.000

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.2517	GEN336241 1-1NMIL CT2 18.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04318	111.2486	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.2464	GEN335570 1-CARVILLE CTG
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.2464	GEN335571 1-CARVILLE UNIT #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.2435	GEN521102 1-ANADRK8
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.2435	GEN521101 1-ANADRK7
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04327	111.2418	P12:138:WERE:BENT-NORT_138P::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.2387	GEN336167 1-GULF OXY U1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.2386	GEN336168 1-GULF OXY U2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	111.2386	GEN336169 1-GULF OXY U3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.2368	GEN600000 1-SHERBURNECNTY G1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	111.2237	GEN509416 1-TURK GENERATION
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03849	111.2235	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	111.1998	GEN335831 1-RIVERBEND UNIT#1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.1857	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	111.1558	GEN525561 1-TOLK GEN #1 24 KV
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04685	111.1483	MARSHALL - WOODRING 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.1142	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04458	111.1017	P12:138:OKGE:3TERM47
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04806	111.1016	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04806	111.101	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.0824	GEN532720 1-CANEYWF1 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.0734	GEN344225 1-1CAL G1 25.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04685	111.0627	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	111.0566	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	111.0306	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04135	111.0239	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04611	111.0202	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04687	111.0059	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.9852	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.9823	GEN635214 4-NEAL UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.9778	GEN562479 1-G14_001_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04577	110.9676	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04577	110.9567	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0477	110.9369	P12:138:OKGE:3TERM1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.9252	GEN509403 1-PIRKEY GENERATION
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04224	110.9227	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04609	110.9207	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03795	110.9124	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04374	110.886	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04783	110.8791	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04806	110.8786	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03089	110.8755	WOODRING (WOODRNG2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.8749	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.8482	GEN600002 3-SHERBURNE CNTY G3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04783	110.8291	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.8276	GEN515041 1-SEMINOLE 2G
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04773	110.827	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.808	GEN533141 1-SLATEGEN1 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.8047	GEN587163 1-G16-022-GEN10.6500
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.803	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04533	110.7915	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04533	110.7915	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04546	110.7851	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04546	110.7851	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.7716	GEN515042 1-SEMINOLE 3G
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0474	110.7695	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04103	110.7694	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04103	110.7694	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04783	110.7678	DOVER SW - HENESSEY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.7623	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.7272	GEN509406 1-WELSH #3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.7271	GEN509404 1-WELSH #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.7213	GEN645011 1-NEBRASKA CITY 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	110.7087	GEN562718 1-G15_024_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	110.7077	GEN587503 1-G73-073-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	110.7077	GEN562720 1-G15_025_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	110.7077	GEN563242 1-G15090_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04619	110.6928	RENFROW4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04611	110.6928	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04212	110.6807	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04212	110.6807	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	110.6786	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.6737	GEN335206 1-NELSON UNIT 6
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04556	110.6593	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.6583	GEN520947 1-HUGO1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04864	110.645	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	110.6394	GEN563052 1-G15069_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04608	110.6357	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04608	110.6357	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04149	110.6064	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04414	110.6057	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04402	110.6012	NOEL_SW 138.00 - ROSE VALLEY 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04289	110.6009	7SPORTSMAN - BLACKBERRY 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	110.6007	GEN645012 2-NEBRASKA CITY 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5998	7CALAWY 1 345.00 345/25.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0439	110.5979	BENTON - WOLF CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	110.5966	GEN514643 1-BRKWND11 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5935	GEN542964 8-HAWTHORN COMBUSTION TURBINE #8
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5927	GEN629072 4-LANSING GENERATOR FOR UNITS NO4 EIA CODE 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04314	110.5917	HIGHLAND - PINK SW 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.5916	GEN514910 2-REDBUD GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5875	GEN659125 1-COVEY
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5869	GEN546697 1-QN GEN1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04158	110.5868	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04158	110.5868	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5838	GEN657749 1-YOUNG 1 GENERATOR

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04319	110.583	BAXTER WILSON SES - RAY BRASWELL SES 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5828	GEN640028 1-COLUMCOGENERATION
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5828	GEN652460 4-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5825	GEN652461 5-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5811	GEN652458 2-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5811	GEN652459 3-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5811	GEN652457 1-GARRISON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04306	110.5807	KEO EHV - WHITE BLUFF 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5796	LONEOAK - NORTHWEST 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5792	GEN547643 1-RIVERTON GEN #13
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5778	GEN539677 3-A. M. MULLERGEN GENERATOR
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04324	110.5763	P12:138:AEPW:S.W.S.-4:L.E.S.-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.574	GEN645022 2-NORTH OMAHA 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04402	110.5719	7MCCREDIE 345.00 - 7OVERTON 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5677	GEN543078 1-PAOLA COMBUSTION TURBINES
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.5672	GEN525844 1-ELK_1 118.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5656	GEN532671 1-TECUMSEH ENERGY CENTER UNIT 7
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5656	GEN640005 1-CANADAY
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0436	110.5649	4LUTHERD 138.00 - 4WARWICK 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5622	GEN543106 1-BULL CREEK COMBUSTION TURBINE #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5615	GEN546723 1-NEARMAN CT4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04619	110.5577	RENFROW4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5559	GEN640019 1-SHELDON STATION UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.554	GEN647418 8-FREMONT 8
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5531	P12:138:AEPW:112GORE4:L.E.S.-4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5484	GEN543108 3-BULL CREEK COMBUSTION TURBINE #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5483	GEN543109 4-BULL CREEK COMBUSTION TURBINE #4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5471	GEN543107 2-BULL CREEK COMBUSTION TURBINE #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04316	110.5465	P12:138:WFEC:MSL03
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04334	110.5463	QUAIL CREEK - SKYLINE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.5308	GEN659018 1-G14_003IS_3 0.6900

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.5275	GEN511836 1-NORTHEASTERN STATION #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.5255	GEN300012 1-HOLDEN UNIT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04807	110.5251	P12:138:OKGE:3TERM11
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04581	110.5223	P12:138:WFEC:MSL14
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04597	110.5206	LACYGNE - STILWELL 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.5198	GEN514911 2-REDBUD GEN
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.5197	GEN514942 2-REDBUD4G
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03907	110.5187	CWBOYHT4 138.00 - FNTANTP4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04275	110.5173	DOLET HILLS 345/230KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.516	GEN672310 1-POPLAR RIVER GENERATOR 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.516	GEN672311 2-POPLAR RIVER GENERATOR 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.515	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.5127	GEN531447 1-HOLCOMB GENERATOR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04005	110.5125	CIMARRON - MINCO 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04618	110.5121	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.5117	GEN672321 1-SHAND GENERATOR 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04283	110.5112	CROCKETT - GRIMES 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04283	110.5112	CROCKETT - GRIMES 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.5104	GEN511842 1-RIVERSIDE STATION #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04268	110.5098	8BHAM STEEL 500.00 - WEST MEMPHIS 500 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.5088	GEN511843 1-RIVERSIDE STATION #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	110.5063	4LUTHERD 138.00 - LUTHER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.5058	P12:69:AEPW:L.E.S.-2:LAW WC2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03907	110.5048	CWBOYHT4 138.00 - MARLAND TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04332	110.5042	MORGAN - MUSTANG 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04546	110.5007	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.5005	GEN659289 1-DAYCNTYWND W0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04581	110.4989	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.498	GEN672306 6-BOUNDARY DAM GENERATOR 6
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.4956	GEN542951 5-HAWTHORN UNIT #5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4927	GEN645033 3-SARPY COUNTY 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	110.4897	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04293	110.4871	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.043	110.4831	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04332	110.4775	MORGAN - XEROX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04159	110.4775	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04159	110.4775	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4774	GEN529252 1-OMPA-KAW
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4763	GEN344896 3-1LAB G3 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4758	GEN344895 2-1LAB G2 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4754	GEN344897 4-1LAB G4 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4753	GEN344894 1-1LAB G1 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04332	110.4734	CZECH HALL - XEROX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04259	110.4732	8HOLND BTM% 500.00 - KEO EHV 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4731	GEN681522 3-GENOA 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04542	110.4716	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4708	GEN300015 1-1SGPDEL 18.000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.4692	GEN300003 1-THOMAS HILL UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4662	GEN532705 1-BPU - CITY OF MCPHERSON GAS TURBINE 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04319	110.4646	JENSEN ROAD - JENSEN TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04402	110.4637	P12:138:WERE:ELPA-SUMN_138::
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04488	110.4614	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04488	110.4614	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0475	110.4612	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04156	110.4601	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4587	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0475	110.4565	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4525	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4502	P12:138:AEPW:SHERID4:112GORE4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04321	110.4501	FLATRDG3 - THISTLE4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04321	110.4501	FLATRDG3 - THISTLE4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04321	110.45	THISTLE7 345.00 (THISTLE T1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04528	110.4494	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04528	110.4494	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.4484	GEN514940 1-REDBUD GEN

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4482	GEN645024 4-NORTH OMAHA 4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.4463	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.445	GEN661015 1-COYOTE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0475	110.4432	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	110.4428	P12:138:AECI:STROUD-LUTHER
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.4408	GEN514900 1-REDBUD2S
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.4406	GEN514899 1-REDBUD1S
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04357	110.4366	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.436	GEN300020 1-1CHOTCT4 16.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4359	GEN300021 1-1CHOTCT5 16.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4357	GEN300033 1-CHOUTEAU STG 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4357	GEN300032 1-CHOUTEAU CTG 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	110.4348	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4312	GEN659354 1-DEERCREK STG18.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.431	GEN659353 1-DEERCREK CTG18.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04601	110.4298	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03907	110.4295	MARLAND TAP - OSAGE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	110.4292	FRANKLIN - PINK SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.428	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04237	110.4261	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04542	110.4259	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4257	P12:69:AEPW-OMPA:SNYDER-2:ALTUSJT2:OMALTUS2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4198	GEN541167 3-SHARPR#3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4175	GEN300024 1-1CHOTST6 16.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4175	GEN300031 1-CHOUTEAU CTG 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4151	GEN541166 2-SHARPR#2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4151	GEN541165 1-SHARPR#1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4145	GEN542961 6-HAWTHORN COMBUSTION TURBINE #6
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04296	110.4139	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04296	110.4136	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04624	110.4118	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	110.4115	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04319	110.4105	P12:138:OKGE:3TERM10
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.4088	GEN587387 1-G16-057-GEN20.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.4087	GEN587383 1-G16-045-GEN10.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.4079	GEN640009 1-COOPER NUCLEAR STATION
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.406	GEN587307 1-G16-045-GEN20.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.406	GEN587303 1-G16-045-GEN10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04609	110.405	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.404	GEN300010 1-ST FRANCIS UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.4031	GEN681542 6-JP MADGETT
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04533	110.402	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04533	110.402	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04542	110.3984	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04346	110.3957	OVEXFRMCCOVE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.3943	4REMNGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04581	110.3941	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04332	110.3866	CIMARRON - CZECH HALL 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.3844	PLUM POINT 500/23.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.3797	GEN514905 1-REDBUD3S
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.3793	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04097	110.3769	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04097	110.3769	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04542	110.3766	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.3741	GEN549890 1-SOUTHWEST 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.3715	4OSAGEWIND 138.00 - 4REMNGTON 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.3577	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.356	GEN546698 1-QN GEN2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.3545	GEN542967 9-HAWTHORN UNIT #9
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03898	110.3544	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03898	110.354	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03898	110.354	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	110.3512	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.3475	GEN300011 1-ST FRANCIS UNIT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04609	110.3433	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.3414	GEN532724 1-EVANS ENERGY CENTER GAS TURBINE 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.3409	GEN562892 1-G15048_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04402	110.3396	G15095_T 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.3394	GEN501813 1-RODEMACHER UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.332	4SIOUX 1 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.043	110.3292	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.327	GEN505432 1-SIKESTON
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.317	GEN532723 1-EVANS ENERGY CENTER GAS TURBINE 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	110.316	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.3137	GEN501812 1-RODEMACHER UNIT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0442	110.3128	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0442	110.3128	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.3084	GEN527901 1-HOBBS PLANT #1 (CT)
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.3084	GEN527902 1-HOBBS PLANT #2 (CT)
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04472	110.3071	COW CREEK - MORRISON 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	110.3047	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.2956	GEN620315 1-BIG STONE GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.2938	GEN657748 1-YOUNG 2 GENERATOR
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04821	110.2923	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04472	110.2918	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.291	P12:138:AEPW:DUNCAN-4:L.E.S.-4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0464	110.2872	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.286	GEN547656 1-STATE LINE UNIT #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	110.2853	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.2836	GEN547657 1-STATE LINE UNIT #3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.2831	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.2799	GEN645041 1-CASS COUNTY 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04533	110.2785	DEWEY - SOUTHARD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.2772	GEN645042 2-CASS COUNTY 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.2771	GEN514912 2-REDBUD GEN
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04681	110.2735	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	110.2731	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	110.2731	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.2619	GEN300001 1-THOMAS HILL UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.2617	CLAY BOSWELL 230/20.9KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.2539	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0456	110.251	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0456	110.251	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04217	110.2484	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04217	110.2481	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04278	110.2384	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04278	110.2384	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0404	110.2374	OTTER - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.2326	GEN659110 1-LELAND OLDS UNIT1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04604	110.2286	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04604	110.2286	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04163	110.2235	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04163	110.2235	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04581	110.2233	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.2118	GEN641089 2-ENERGY CENTER 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04603	110.2108	DBL-SPRVL-IR
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04595	110.206	P12:138:AEPW:OKMULGE4:R.S.S-4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04982	110.206	OPENSKY7 345.00 - RANCHRD7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04624	110.1987	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.1804	GEN542956 2-LACYGNE UNIT #2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.1789	GEN600004 2-PRAIRIE ISLAND G2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.1775	GEN600003 1-PRAIRIE ISLAND G1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.175	GEN513602 1-GRECSTG_1 17.500
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.1734	GEN562772 1-G15034_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.1729	P12:069:OKGE:3TERM4

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.1717	GEN562658 1-G15_001_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.1715	GEN547658 1-STATE LINE COMBINED CYCLE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04217	110.1711	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04217	110.1708	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.1599	GEN334440 1-SABINE UNIT 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.1587	GEN600006 1-AS KING
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.045	110.1577	4MEMORAL 138.00 - LUTHER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04591	110.1553	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04476	110.151	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04476	110.1482	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04476	110.1481	3TR3AR8EL7EL
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04119	110.1417	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04533	110.1414	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04119	110.1401	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04648	110.1397	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.1377	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.1377	GEN523973 1-HARRINGTON GEN #3 24 KV
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.1377	GEN523972 1-HARRINGTON GEN #2 24 KV
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.1296	GEN549893 2-SOUTHWEST 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04682	110.1285	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.1253	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.1213	GEN542957 1-IATAN UNIT #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.1202	GEN532733 1-GILL ENERGY CENTER UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.1143	GEN532734 1-GILL ENERGY CENTER UNIT 4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04747	110.1101	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04747	110.1101	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04666	110.108	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.1046	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.1025	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.1024	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0425	110.1013	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.1	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	110.0977	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.0917	GEN526331 1-JONES GEN #1 22 KV
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.0913	GEN511851 1-COMANCHE #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.0857	GEN562587 1-G14_056_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0467	110.0806	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0793	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0755	GEN635213 3-NEAL UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.045	110.0715	P12:138:AECI:LUTHER-JONES
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.0714	GEN509409 1-WILKES #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0701	GEN532742 5-EMPORIA ENERGY CENTER UNIT 5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0692	GEN615001 1-COAL CREEK
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0664	GEN560248 1-G10_003_2 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0655	GEN532957 1-WAVERGEN1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0655	GEN615002 2-COAL CREEK
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04565	110.0647	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04565	110.0647	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.045	110.0642	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.0603	GEN587233 1-G16-037-GEN10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.0596	GEN515226 1-MUSKOGEE 6G
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0585	GEN636641 1-LOUISA UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0576	GEN541162 1-ARIES STEAM TURBINE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0571	GEN547649 1-ASBURY UNIT #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04602	110.0546	PECULIAR - STILWELL 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.0495	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.05234	110.0428	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04591	110.0416	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04591	110.0414	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0387	GEN532744 7-EMPORIA ENERGY CENTER UNIT 7
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	110.0387	GEN532743 6-EMPORIA ENERGY CENTER UNIT 6
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04303	110.0357	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04303	110.0357	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.05234	110.0345	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	110.0279	GEN521103 1-BLUE CANYON WIND FARM

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.0273	GEN560183 1-REDHIL-WTG1 12.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04505	110.0214	WEBRE - WELLS 500KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.0166	GEN335204 1-NELSON UNIT 4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.0129	GEN515602 1-KNGFSR12 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04149	110.0089	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04671	110.0087	P13:069-138:WERE:ELPA_TX-1::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03955	110.0085	MDFRDTP4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05013	110.0066	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	110.0057	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	110.0024	GEN600005 1-MONTICELLO
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	109.999	GEN336821 1-GRAND GULF UNIT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.9977	GEN600001 2-SHERBURNE CNTY G2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9975	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	109.9964	GEN501801 1-DOLET HILLS UNIT1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04616	109.9945	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9943	GEN303007 1-1BC2 U2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.9934	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9927	FRONTIER - GRIMES 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0467	109.9925	EL PASO - FARBER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9922	GEN515225 1-MUSKOGEE 5G
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9918	GEN515223 1-MUSKOGEE 4G
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9914	GEN334030 1-FRONTIER UNIT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9902	GEN334031 1-FRONTIER UNIT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04838	109.9895	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04591	109.9873	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9865	GEN336831 1-BAXTER WILSON SES
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04539	109.9816	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0469	109.9805	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05234	109.9803	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.98	GEN520811 1-ANADRK4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.9793	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05234	109.9793	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04543	109.9766	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04736	109.9751	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9644	CRESSENT - TWIN LAKES 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9597	GEN527884 1-CUNNINGHAM GEN #4 22 KV

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04577	109.9564	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04577	109.9564	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05234	109.956	DOMES - MOUND ROAD 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	109.9549	GEN562723 1-G15_030_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.949	GEN303008 1-1BC2 U3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9393	GEN515443 1-MNCOWND1 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.938	GEN600000 1-SHERBURNECNTY G1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9336	GEN336170 1-GULF OXY U4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	109.9294	GEN587483 1-G16-071-GEN10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.9216	GEN527163 1-MUSTANG GEN #3 22 KV
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04549	109.9154	P12:069:OKGE:3TERM3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.9143	GEN300002 1-THOMAS HILL UNIT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.914	GEN334441 1-SABINE UNIT 5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04736	109.9038	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	109.9034	GEN533126 1-FR2W2WF1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04582	109.9022	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04532	109.9003	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0469	109.8991	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04401	109.8981	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04401	109.8981	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04401	109.8981	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04401	109.8981	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.8979	GEN527882 1-CUNNINGHAM GEN #2 20 KV
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	109.8979	GEN533124 1-FR2E2WF1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.8971	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04025	109.8951	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04025	109.8951	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.8943	COTTONWOOD CREEK - CRESENT 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03795	109.894	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04258	109.8932	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05395	109.892	4REMINGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05089	109.8905	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.883	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.879	GEN511853 1-COMANCHE #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.8786	GEN587333 1-G16-048-GEN10.5200
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8764	GEN501910 1-ACADIA UNIT ST1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8716	GEN562590 1-G14_057_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	109.8707	GEN533125 1-FR2W1WF1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8706	GEN520813 1-ANADRK6
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8706	GEN520812 1-ANADRK5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0466	109.8706	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	109.8665	GEN533123 1-FR2E1WF1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8654	GEN337041 1-GERALD ANDRUS
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8648	GEN511852 1-COMANCHE #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.05181	109.8639	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.05181	109.8639	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04598	109.8635	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8632	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.05866	109.8607	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.8565	GEN590010 1-ERCOT EQUIVALENCE
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	109.856	GEN515040 1-SEMINOLE 1G
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04816	109.8546	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8545	GEN515607 1-CANDN12 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8545	GEN515606 1-CANDN11 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8539	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8515	GEN527162 1-MUSTANG GEN #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8515	GEN527161 1-MUSTANG GEN #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8512	GEN334433 1-SABINE UNIT 3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8497	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04548	109.8442	P12:161:AEPW:EROGERS5:ECNTRTN5
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.8439	GEN515483 1-BLKWLWD1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0458	109.8397	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8353	GEN303006 1-1BC2 U1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8337	P12:161:AEPW:DYESS5:ELMSPRNG:TONTITN5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04709	109.832	CLEAVELAND - SILVER CITY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8319	GEN526332 1-JONES GEN #2 21 KV
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.8288	GEN336464 1-MICHOUD UNIT #3

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04733	109.8278	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.8259	GEN590011 2-ERCOT EQUIVALENCE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.8236	GEN645025 5-NORTH OMAHA 5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.8215	GEN527164 1-MUSTANG GEN #4 22 KV
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.8148	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.8128	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04577	109.8122	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.8076	GEN515449 1-CRSRDW11 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	109.8072	GEN336153 1-WATERFORD UNIT#3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04527	109.805	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04609	109.8044	NOEL_SW 138.00 - SALT PLAINS 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.8043	GEN546702 1-NM GEN N1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.8006	GEN562694 1-G15_016_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7988	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7981	GEN501811 1-RODEMACHER UNIT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04585	109.7945	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	109.7912	KETCH - KETCH TAP 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	109.7902	GEN542955 1-LACYGNE UNIT #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04534	109.7876	P12:138:WFEC:MSL10
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.7875	GEN588303 1-ASGI1705-GEN0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7874	GEN563062 1-G15071_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	109.7832	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	109.7832	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7824	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7806	GEN337766 1-TRACTEBEL UNIT S1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7763	GEN506754 1-LEBROCK STEAM 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7762	GEN501970 1-EVANGELINE UNIT 7
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05181	109.7762	P12:138:AEPW:BV-COM-4:BV-SE--4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04525	109.7758	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04525	109.7758	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04534	109.7756	PHAROAH - WETUMKA4 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04565	109.7749	OKEENE - WATONGA SW 69KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04638	109.7727	CUSHING - GRNWOOD4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.766	GEN334071 1-LEWIS CREEK 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.766	GEN334070 1-LEWIS CREEK 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.764	GEN509394 1-FLINT CREEK

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04617	109.7637	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04617	109.7637	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7616	GEN334392 1-EXXON MOBIL IPP 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7589	GEN334393 1-EXXON MOBIL IPP 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7589	GEN334394 1-EXXON MOBIL IPP 3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04569	109.7587	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7561	GEN509393 S1-ARSENAL HILL GENS #4 (STALL)
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7546	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.7528	GEN529201 1-OMCDLEC1 13.800
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7517	P12:138:WFEC:MSL13
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04675	109.751	P12:138:WERE:CRSW-SUMN_138::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.7486	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04534	109.7478	PARAGON4 138.00 - WETUMKA4 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7471	GEN503909 1-FULTONU1 1 16.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7468	GEN560105 1-G08-22 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04591	109.746	BOWMAN - KINGINDT2 69.000 69KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04534	109.7458	PARAGON4 138.00 - TRNCNDACV4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7439	GEN501971 1-EVANGELINE UNIT 7-1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04736	109.7436	7OVERTON 345.00 - SIBLEY 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04664	109.7429	4WOODY 138.00 - BRISTOW 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04538	109.7419	P13:069-138:WERE:BTUL_TX-1::
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04675	109.7419	CRESWELL - OXFORD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04538	109.7408	ALTOONA - BUTLER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7402	GEN562550 1-G14_040_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7393	GEN524295 1-SPNSPUR_WND10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.739	GEN301382 1-10SAGEWINDG10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.7389	GEN635214 4-NEAL UNIT 4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0428	109.7388	CHIKASKIA - KILDARE4 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04572	109.7364	HORSESHOE LAKE - KAMO MEMORIAL 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04397	109.7353	MUSKOGEE - SEMINOLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04691	109.735	IMO TAP - MEN TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.7327	GEN336242 1-1NMIL ST1 18.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04543	109.7325	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04543	109.7325	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.7319	GEN501912 1-ACADIA UNIT CT1B
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.7315	GEN501911 1-ACADIA UNIT CT1A
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.731	P12:138:WFEC:MSL09
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04675	109.7307	OXFORD - SUMNER 4 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.7279	GEN523461 1-BLACKHAWK GEN #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.7279	GEN523462 1-BLACKHAWK GEN #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0469	109.7277	4WOODY 138.00 - PHAROAH 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0469	109.7277	4WOODY 138.00 - PHAROAH 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.7262	GEN563272 1-G15093_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04564	109.7259	NEOSHO - SUB 452 - RIVERTON 161KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04529	109.7258	MC NIEL 500/115KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.7241	GEN344225 1-1CAL G1 25.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.7216	GEN337764 1-TRACTEBEL UNIT C1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.7216	GEN337765 1-TRACTEBEL UNIT C2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04327	109.7196	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04591	109.7188	KNGINDT2 69.000 - OKRCHET2 69.000 69KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04206	109.7185	CIMARRON - MATHWSN7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04206	109.7185	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	109.7177	GEN563022 1-G15066_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04534	109.7164	LAYFLD8 500.00 - MOUNT OLIVE 500KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04534	109.7164	LAYFLD8 500.00 - MOUNT OLIVE 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	109.7157	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.7153	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.7141	GEN300006 1-NEW MADRID UNIT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04495	109.7139	FULTON 115 - HOPE 115KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04495	109.7139	FULTON 115 - HOPE 115KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.711	GEN587423 1-G16-062-GEN10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04452	109.7108	FAIRMONT TAP - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.7091	GEN587213 1-G16-032-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04315	109.7089	G16-037-TAP 345.00 - GRACEMONT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.7088	GEN562602 1-G15_029_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.7043	GEN300007 1-NEW MADRID UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.702	GEN513601 1-GRECCTG_1 20.000

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.6959	GEN532725 1-EVANS ENERGY CENTER GAS TURBINE 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04618	109.6897	VIOLA 7 345.00 (VIOLA 1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.6826	GEN600002 3-SHERBURNE CNTY G3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04695	109.6812	MARSHALL - WOODRING 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04327	109.6747	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03955	109.674	G15-015T 138.00 - MDFRTP4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.6704	GEN532721 1-EVANS ENERGY CENTER UNIT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.6558	GEN515622 1-KAYWND11 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.6553	GEN511840 1-NORTHEASTERN STATION #3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.6376	GEN515623 1-KAYWND12 0.7000
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	109.6369	GEN562691 1-G15_015_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	109.6296	GEN542962 2-IATAN UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04695	109.6286	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04464	109.6036	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04464	109.6036	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.6024	GEN511839 1-NORTHEASTERN STATION #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	109.5926	GEN335831 1-RIVERBEND UNIT#1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.5537	GEN659111 2-LELAND OLDS UNIT2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04843	109.535	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04325	109.5221	P12:138:AEPW:CORNVIL4:DUNCAN-4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04802	109.5182	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	109.4949	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.07393	109.4857	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	109.4803	GEN562902 1-G15052_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04753	109.4783	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04802	109.4711	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04306	109.4643	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04306	109.4643	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04306	109.4643	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04306	109.4643	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04434	109.4475	P12:138:WERE:CRSW-OGE_138::
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.4356	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.4356	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.4055	GEN563082 1-G15073_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.4029	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04315	109.4002	CHISHOLM7 345.00 - G16-037-TAP 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04802	109.3914	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04624	109.3902	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.3675	GEN563182 1-G15083_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04705	109.3557	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04821	109.3549	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04596	109.3543	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.3344	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0432	109.3113	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04719	109.3017	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0459	109.2968	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0459	109.2968	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04188	109.2742	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	109.239	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04802	109.2319	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04802	109.2311	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04089	109.2278	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04089	109.2278	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04118	109.2054	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.171	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0441	109.1689	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04099	109.1676	P12:138:OKGE:3TERM2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0432	109.1611	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.1603	GEN512688 2-GRDA1 GSU2 22
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	109.1562	GEN509416 1-TURK GENERATION
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04642	109.1558	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04642	109.1558	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.1524	GEN532720 1-CANEYWF1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04641	109.1476	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04678	109.1363	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04678	109.1363	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.1146	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.1128	GEN562479 1-G14_001_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04005	109.1127	GRACEMONT - MINCO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	109.0938	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04802	109.0856	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0698	GEN300031 1-CHOUTEAU CTG 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0697	GEN300024 1-1CHOTST6 16.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04645	109.0641	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	109.0563	GEN335206 1-NELSON UNIT 6
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0514	GEN300001 1-THOMAS HILL UNIT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04331	109.048	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04331	109.048	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0435	GEN672392 1-NBECGT1G 18.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0412	GEN600071 10-RIVER SIDE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0412	GEN600070 9-RIVER SIDE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0393	P12:230:UMZB:# 112 #: NU IN SD. NU-RCDC & DRY CREEK XFMR
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0392	RCDC EAST 4230.00 - RED CEDAR DC 230KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04594	109.0386	P12:138:AECI:STROUD-LUTHER
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.037	GEN600007 7-RIVERSIDE GEN 7
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04509	109.0359	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0351	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.03908	109.0322	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0316	GEN600014 4-BLACK DOG GEN 4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0315	GEN531447 1-HOLCOMB GENERATOR
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0279	GEN530594 1-SMKYP1G1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0273	GEN615021 1-GRE-ER 14G 16.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0212	GEN629071 1-BURLINGTON GENERATOR FOR UNIT NO 1 E
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.0199	GEN560768 1-MRWY-WG1 1.0000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04534	109.0182	CHISNEY - CLARKSVILLE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	109.016	GEN505432 1-SIKESTON

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	109.0154	P12:69:AEPW-OMPA:SNYDER-2:ALTUSJT2:OMALTUS2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	109.0134	GEN509403 1-PIRKEY GENERATION
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	109.0102	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04642	109.0096	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04551	108.9965	QUAIL CREEK - SKYLINE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.9913	GEN590010 1-ERCOT EQUIVALENCE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04619	108.9912	OVEXFRMCCOVE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.9852	GEN629070 2-BEAVER CHANNEL GENERATORFOR UNIT NO 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.045	108.981	COW CREEK - MORRISON 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.9808	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04534	108.9797	CHISNEY - HIGHLAND 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04551	108.9791	MORGAN - MUSTANG 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.045	108.9762	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04511	108.9744	TUPELO - TUPELO TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.9733	GEN590011 2-ERCOT EQUIVALENCE
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04533	108.9675	P12:138:WFEC:MSL03
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.9654	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04515	108.9638	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.9628	P12:138:AEPW:DUNCAN-4:L.E.S.-4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.9627	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04551	108.9623	MORGAN - XEROX 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04517	108.9594	P12:230:AEPW:ELKCITY6:SWEETWT6
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04551	108.9594	CZECH HALL - XEROX 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0454	108.9528	CIMARRON - SARA 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04509	108.9498	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.9453	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03698	108.9443	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.9439	GEN645025 5-NORTH OMAHA 5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04531	108.9423	CHISHOLM7 345.00 (CHISHOLM) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.9413	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.9413	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04583	108.9395	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.9385	GEN527901 1-HOBBS PLANT #1 (CT)
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	108.9355	GEN587503 1-G73-073-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	108.9355	GEN563242 1-G15090_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	108.9351	GEN562720 1-G15_025_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	108.9348	GEN562718 1-G15_024_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04559	108.9343	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04559	108.9343	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04534	108.9305	HIGHLAND - PINK SW 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.9225	GEN549893 2-SOUTHWEST 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04509	108.9215	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04774	108.9184	4MEMORAL 138.00 - LUTHER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0455	108.9183	FAIRVIEW - OKEENE 69KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.9166	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04578	108.9092	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.9078	GEN547649 1-ASBURY UNIT #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04551	108.9062	CIMARRON - CZECH HALL 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04624	108.9031	BYRON_138 138.00 - C.CITY_138 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.8944	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	108.8842	GEN587163 1-G16-022-GEN10.6500
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0463	108.8831	NOEL_SW 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.8798	GEN515449 1-CRSRDW11 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04598	108.8776	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.87	GEN659110 1-LELAND OLDS UNIT1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04774	108.8682	P12:138:AECI:LUTHER-JONES
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04847	108.8656	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04847	108.8656	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04304	108.8644	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04304	108.8644	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04774	108.8585	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.8568	4REMINGTON 138.00 - ASGI1705 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.8553	GEN629072 4-LANSING GENERATOR FOR UNITS NO4 EIA CODE 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04624	108.8517	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04548	108.8453	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.8368	GEN657749 1-YOUNG 1 GENERATOR
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.8366	GEN641089 2-ENERGY CENTER 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.8357	4OSAGEWIND 138.00 - 4REMNGTON 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	108.8317	GEN514643 1-BRKWND11 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04619	108.8299	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	108.8175	GEN533141 1-SLATEGEN1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.8117	GEN345670 1-1RUSH G1 18.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04838	108.7977	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04807	108.7838	P12:138:OKGE:3TERM11
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.7837	GEN587387 1-G16-057-GEN20.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.7835	GEN587383 1-G16-045-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.7815	GEN587307 1-G16-045-GEN20.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.7814	GEN587303 1-G16-045-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03425	108.7813	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03893	108.7805	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03893	108.7805	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03893	108.7795	CLEVELAND - CLEVLND 4 138.00 138KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04525	108.7775	DBL-HTCH-OTA
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.7759	GEN681522 3-GENOA 3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.772	GEN562892 1-G15048_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	108.7684	GEN563052 1-G15069_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04534	108.7609	FRANKLIN - PINK SW 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04838	108.749	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0469	108.7468	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04436	108.7446	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04552	108.7418	G1524G1525 345.00 - WICHITA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04552	108.7418	G1524G1525 345.00 - WICHITA 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.7286	GEN501813 1-RODEMACHER UNIT 3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04838	108.7155	NEWKIRK4 - PECKHAM TAP 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.7118	GEN300006 1-NEW MADRID UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.7056	GEN501812 1-RODEMACHER UNIT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.7055	GEN509394 1-FLINT CREEK
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.7021	GEN511840 1-NORTHEASTERN STATION #3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.7014	GEN300007 1-NEW MADRID UNIT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.7005	GEN672321 1-SHAND GENERATOR 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04838	108.6914	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.6813	GEN530690 1-PRWINDG1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0463	108.6799	G15095_T 138.00 - ROSE VALLEY 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.6797	GEN546702 1-NM GEN N1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.6774	GEN672306 6-BOUNDARY DAM GENERATOR 6
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04334	108.6713	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.6668	GEN344895 2-1LAB G2 20.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0459	108.6664	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0459	108.6664	BUCKNER7 345.00 - SPEARVILLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.6664	GEN300002 1-THOMAS HILL UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04559	108.6547	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04559	108.6547	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04458	108.6534	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04458	108.6534	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.645	GEN344896 3-1LAB G3 20.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04721	108.6449	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04645	108.6445	LACYGNE - STILWELL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04601	108.6442	P12:138:WFEC:MSL14
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.6439	GEN344897 4-1LAB G4 20.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.6438	GEN344894 1-1LAB G1 20.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04534	108.6427	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04601	108.6419	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.6386	GEN672311 2-POPLAR RIVER GENERATOR 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04264	108.6234	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.6204	GEN514910 2-REDBUD GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.6181	GEN514942 2-REDBUD4G
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.6181	GEN514911 2-REDBUD GEN

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04567	108.6107	CRESENT - TWIN LAKES 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04524	108.6091	WEBRE - WELLS 500KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.6031	GEN560248 1-G10_003_2 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.6024	GEN532957 1-WAVERGEN1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05228	108.5978	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05228	108.5938	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04721	108.5866	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04345	108.586	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04345	108.586	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04586	108.5859	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04586	108.5859	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	108.584	GEN562882 1-G15047_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.5822	GEN512688 2-GRDA1 GSU2 22
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.5816	GEN681542 6-JP MADGETT
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04567	108.5806	COTTONWOOD CREEK - CRESENT 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.5728	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04512	108.5725	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04512	108.5723	P12:230:AEPW-SPS:SWEETWT6:WHEELER 6
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04512	108.5721	STLN-DEMARC6 - SWEETWATER 230KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04453	108.5709	HUGO - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04453	108.5709	HUGO - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	108.5691	P12:138:WFEC:MSL15
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.5538	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04626	108.5525	DBL-SPRVL-IR
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04601	108.5508	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04372	108.5505	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04372	108.5505	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04454	108.5503	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04705	108.55	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05228	108.545	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04217	108.5448	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04217	108.5448	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04272	108.5403	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04272	108.5403	CIMARRON - MATHWSN7 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.5395	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05228	108.5353	DOMES - MOUND ROAD 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05228	108.5336	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.5263	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.5208	GEN514905 1-REDBUD3S
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04672	108.5169	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04704	108.4931	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.4811	GEN560183 1-REDHIL-WTG1 12.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04507	108.4788	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04507	108.4788	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05373	108.4761	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.475	GEN587233 1-G16-037-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04742	108.4748	KNIFE 4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.4708	GEN562587 1-G14_056_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05183	108.4701	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05183	108.4701	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04114	108.4687	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04742	108.4635	KNIFE 4 138.00 - TRYON 4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0456	108.461	DEWEY - SOUTHARD 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.4575	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	108.4564	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04718	108.4469	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04718	108.4469	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.4444	GEN562694 1-G15_016_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.4437	GEN524295 1-SPNSPUR_WND10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.4401	GEN661015 1-COYOTE
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.4376	GEN521103 1-BLUE CANYON WIND FARM
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0419	108.4358	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0419	108.4343	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.4296	GEN334440 1-SABINE UNIT 4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04776	108.4289	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04776	108.4289	CLARKSVILLE - ONETA 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04572	108.4216	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05183	108.417	P12:138:AEPW:BV-COM-4:BV-SE--4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04638	108.4083	P12:138:WERE:MURR-MKEC_138P::
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.4078	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.4076	GEN524285 1-WILDORADO WIND GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.4035	GEN525844 1-ELK_1 118.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04601	108.4005	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04546	108.4001	P12:138:AEPW:CORNVL4:DUNCAN-4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.3943	GEN515602 1-KNGFSR12 0.7000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0456	108.3939	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.3928	GEN587333 1-G16-048-GEN10.5200
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04649	108.3896	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04649	108.3869	P13:069-138:WERE:ELPA_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04294	108.3814	DBL-THIS-G15
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04611	108.3809	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.3779	GEN523461 1-BLACKHAWK GEN #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0689	108.3745	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.371	GEN336170 1-GULF OXY U4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.3677	GEN588303 1-ASGI1705-GEN0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0464	108.3666	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0464	108.3666	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.3665	GEN657748 1-YOUNG 2 GENERATOR
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.3639	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04649	108.3637	EL PASO - FARBER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04572	108.3635	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.363	GEN334030 1-FRONTIER UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.3615	GEN334031 1-FRONTIER UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.3587	GEN335204 1-NELSON UNIT 4
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	108.3567	GEN645011 1-NEBRASKA CITY 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04667	108.3547	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.3542	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04417	108.3522	LYDIA - WELSH 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04417	108.3522	LYDIA - WELSH 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.348	GEN620315 1-BIG STONE GEN
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.3471	GEN587213 1-G16-032-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04611	108.3454	CLEARWATER - VIOLA 4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05935	108.3434	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04636	108.342	PECULIAR - STILWELL 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.3378	GEN659111 2-LELAND OLDS UNIT2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.3361	GEN336831 1-BAXTER WILSON SES
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04442	108.3356	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.3333	GEN515443 1-MNCOWND1 0.7000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04814	108.327	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04814	108.327	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04442	108.327	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	108.3264	FRONTIER - GRIMES 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04735	108.3249	CLEVELAND - SILVER CITY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.3241	GEN301382 1-10SAGEWINDG10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04119	108.323	MDFRTP4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04799	108.3197	TRYON 4 138.00 - WARWICK 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04611	108.3183	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04611	108.3181	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04542	108.3176	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.3159	GEN515483 1-BLKWLWD1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04473	108.3064	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04624	108.3057	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04565	108.3045	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04645	108.3037	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04556	108.3029	P13:069-138:WERE:BTUL_TX-1::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04556	108.3026	ALTOONA - BUTLER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04645	108.3016	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04442	108.2985	KINZE - MCELROY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04611	108.2954	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04398	108.2942	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	108.291	GEN636641 1-LOUISA UNIT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04088	108.288	OTTER - WOODRING 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.287	GEN560105 1-G08-22 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2834	GEN562550 1-G14_040_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04542	108.283	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04725	108.2777	IMO TAP - MEN TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0454	108.2758	P13:069-138:WERE:ALTO_TX-10R3P::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2735	GEN562590 1-G14_057_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04444	108.2693	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04444	108.2693	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	108.2667	GEN533124 1-FR2E2WF1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.2665	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04602	108.2647	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2644	GEN587423 1-G16-062-GEN10.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	108.2623	GEN533126 1-FR2W2WF1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04725	108.2532	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	108.2516	GEN562772 1-G15034_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2505	GEN515607 1-CANDN12 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2505	GEN515606 1-CANDN11 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04599	108.2458	GILL ENERGY CENTER SOUTH - VIOLA 4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2456	GEN514912 2-REDBUD GEN
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	108.245	GEN562658 1-G15_001_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.2432	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.2432	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2422	GEN337041 1-GERALD ANDRUS
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2388	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04551	108.2371	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	108.2368	GEN533123 1-FR2E1WF1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.03142	108.2317	DBL-TGA-MATT
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	108.2306	GEN533125 1-FR2W1WF1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04633	108.2239	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2177	GEN563062 1-G15071_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2159	GEN515223 1-MUSKOGEE 4G
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.215	GEN515622 1-KAYWND11 0.7000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2113	GEN335614 1-WILLOW GLENN UNIT#4

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	108.205	GEN645012 2-NEBRASKA CITY 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	108.2045	GEN514805 1-SOONER UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04735	108.2045	NORTHEAST STATION - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04735	108.2045	NORTHEAST STATION - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.2025	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1965	GEN562270 1-G12-020-2 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04555	108.1956	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1953	GEN336464 1-MICHOUD UNIT #3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.1949	GEN600006 1-AS KING
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1941	GEN334441 1-SABINE UNIT 5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04345	108.1927	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04345	108.1927	FINNEY SWITCHING STATION - HOLCOMB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04763	108.1902	7OVERTON 345.00 - SIBLEY 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04444	108.1895	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04444	108.1895	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1886	GEN562602 1-G15_029_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	108.1877	GEN542951 5-HAWTHORN UNIT #5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04718	108.1862	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04718	108.1862	PECAN CREEK - RIVERSIDE STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.1856	GEN515623 1-KAYWND12 0.7000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	108.1838	GEN640009 1-COOPER NUCLEAR STATION
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1815	GEN334392 1-EXXON MOBIL IPP 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	108.1782	GEN300003 1-THOMAS HILL UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04521	108.1776	MCADAMS - WOLF CREEK 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1758	GEN562269 1-G12-020-1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1755	GEN303007 1-1BC2 U2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.175	GEN334394 1-EXXON MOBIL IPP 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.175	GEN334393 1-EXXON MOBIL IPP 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04582	108.1724	NEOSHO - SUB 452 - RIVERTON 161KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04683	108.1704	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1702	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1693	GEN303006 1-1BC2 U1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1678	GEN336242 1-1NMIL ST1 18.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04435	108.1648	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04435	108.1648	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04435	108.1648	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04435	108.1648	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04469	108.1628	P12:138:OKGE:3TERM1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1625	GEN524485 1-CAPROCK WIND GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1616	GEN334433 1-SABINE UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0457	108.161	DOVER - DOVER SW 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1605	GEN515393 1-OGEWND2G
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04725	108.1498	CLEO CORNER - CLEOPLT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04695	108.1485	WOODWARD EHV - WWPAR4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0457	108.1485	DOVER - TWIN LAKES 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04695	108.1483	WOODWARD - WWPAR4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1473	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1414	GEN562074 1-G1149G1504 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0464	108.1406	P12:138:GRDA:COLLINSVILLE-CLEVELAND
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	108.1274	GEN563162 1-G15081_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04287	108.122	GEN514806 1-SOONER UNIT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04398	108.1191	G16-063-TAP 345.00 - HUGO 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.1083	GEN635213 3-NEAL UNIT 3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04119	108.0789	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.0649	GEN600005 1-MONTICELLO
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.0464	GEN563182 1-G15083_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	108.046	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04482	108.0391	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04536	108.0355	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04536	108.0276	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	107.9875	GEN562723 1-G15_030_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	107.9566	GEN563082 1-G15073_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0437	107.9496	LYDIA - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0437	107.9496	LYDIA - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	107.9493	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	107.9486	GEN587483 1-G16-071-GEN10.6900

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.9333	GEN615001 1-COAL CREEK
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.9256	GEN600001 2-SHERBURNE CNTY G2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04482	107.9249	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	107.8738	GEN532722 1-EVANS ENERGY CENTER UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	107.8566	GEN515484 1-CHSHMVW1 0.5750
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	107.855	GEN515479 1-CHSHMVE1 0.5750
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04525	107.8544	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.843	GEN600000 1-SHERBURNECNTY G1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	107.8146	GEN562691 1-G15_015_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.7967	GEN640009 1-COOPER NUCLEAR STATION
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04482	107.7888	DOVER SW - HENESSEY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.7618	GEN532720 1-CANEYWF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	107.7592	DBL-THIS-G15
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	107.7551	GEN562611 1-G14_064_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	107.7038	GEN563022 1-G15066_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0441	107.6893	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.6852	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.6372	GEN562479 1-G14_001_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	107.6235	GEN542956 2-LACYGNE UNIT #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.623	GEN645011 1-NEBRASKA CITY 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	107.6193	GEN542957 1-IATAN UNIT #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04404	107.6139	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.6023	GEN635214 4-NEAL UNIT 4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04525	107.6023	G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04394	107.583	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03398	107.5703	DBL-THIS-WWR
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.5221	GEN300006 1-NEW MADRID UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.5206	GEN590010 1-ERCOT EQUIVALENCE
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04797	107.5185	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04323	107.5134	RENFROW4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.5067	GEN590011 2-ERCOT EQUIVALENCE
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04551	107.5057	DRAPER LAKE - SEMINOLE 345KV CKT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04565	107.497	CIMARRON - SARA 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04542	107.4943	ARCADIA - SEMINOLE 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.4917	GEN560768 1-MRWY-WG1 1.0000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0467	107.4917	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.488	GEN511840 1-NORTHEASTERN STATION #3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04517	107.4813	CROCKETT - GRIMES 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0456	107.4809	P12:138:WFEC:MSL03
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04568	107.4795	P12:138:AEPW-OGE:WELETK4:MAUD 4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.4789	GEN533141 1-SLATEGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0438	107.4773	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	107.4771	GEN562902 1-G15052_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.4738	GEN645012 2-NEBRASKA CITY 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.4676	GEN587163 1-G16-022-GEN10.6500
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04489	107.4577	HOLCOMB - SETAB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04489	107.4577	HOLCOMB - SETAB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.4573	GEN300002 1-THOMAS HILL UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04756	107.4563	P12:138:AECI:LUTHER-JONES
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04756	107.4522	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	107.4478	P12:138:WFEC:MSL08
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.4477	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.4462	GEN530594 1-SMKYP1G1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04605	107.4454	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	107.4425	UNITED CLAY - WEWOKA 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.4323	GEN661015 1-COYOTE
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.4262	GEN657748 1-YOUNG 2 GENERATOR
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	107.4234	HAZEL JCT - UNITED CLAY 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04345	107.4177	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04345	107.4177	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.4161	GEN300007 1-NEW MADRID UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04323	107.4149	RENFROW4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	107.409	CLARKSVILLE - HAZEL JCT 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04535	107.4063	TUPELO - TUPELO TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.397	GEN344894 1-1LAB G1 20.000
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	107.382	CHISNEY - CLARKSVILLE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.3813	GEN672306 6-BOUNDARY DAM GENERATOR 6
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.381	GEN529252 1-OMPA-KAW
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.3792	GEN641089 2-ENERGY CENTER 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04464	107.3709	MINGO - SETAB 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04464	107.3709	MINGO - SETAB 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04494	107.3674	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	107.3615	CHISNEY - HIGHLAND 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.3519	GEN587503 1-G73-073-GEN10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.3519	GEN563242 1-G15090_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.3512	GEN562720 1-G15_025_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.3499	GEN562718 1-G15_024_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.3477	GEN672310 1-POPLAR RIVER GENERATOR 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	107.3348	HIGHLAND - PINK SW 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04507	107.333	DOLET HILLS 345/230KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.3325	GEN659111 2-LELAND OLDS UNIT2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04305	107.3222	P12:138:WFEC:MSL15
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05632	107.3216	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.3126	GEN563052 1-G15069_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04651	107.3103	G15095_T 138.00 - ROSE VALLEY 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04468	107.3076	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04533	107.3067	DRAPER LAKE - SEMINOLE 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04533	107.3067	DRAPER LAKE - SEMINOLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04354	107.3038	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.3023	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.2813	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.2796	GEN542951 5-HAWTHORN UNIT #5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04458	107.2776	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04494	107.2467	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	107.2449	FRANKLIN - PINK SW 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05632	107.2392	G16-072-TAP 345.00 - RENFROW7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.2353	GEN514643 1-BRKWND11 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.229	GEN562892 1-G15048_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04475	107.2278	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04475	107.2278	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.2183	GEN513601 1-GRECCTG_1 20.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	107.215	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04043	107.2083	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04043	107.2083	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.2041	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.2039	P12:230:AEPW-SPS:SWEETWT6:WHEELER 6
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	107.2039	STLN-DEMARC6 - SWEETWATER 230KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04494	107.2033	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.1956	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.1956	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.1943	GEN600006 1-AS KING
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04649	107.1898	P12:138:WERE:ELPA-SUMN_138::
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04468	107.1889	HUGO - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04468	107.1889	HUGO - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04563	107.1849	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.1847	GEN645012 2-NEBRASKA CITY 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.1725	GEN530690 1-PRWINDG1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.1696	GEN542951 5-HAWTHORN UNIT #5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.1679	G1524G1525 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.1679	G1524G1525 345.00 - WICHITA 345KV CKT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04794	107.1653	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04572	107.1589	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04321	107.1573	VIOLA 7 345.00 (VIOLA 1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.1543	4OSAGEWIND 138.00 - 4REMNGTON 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.154	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04794	107.1476	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	107.1437	GEN542955 1-LACYGNE UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04572	107.1426	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04794	107.1394	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.1335	GEN620315 1-BIG STONE GEN
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0457	107.1328	P12:138:AEPW:CORNVIL4:DUNCAN-4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04794	107.1292	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04457	107.1224	MINGO - RED WILLOW 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04457	107.1224	MINGO - RED WILLOW 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04753	107.1204	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04409	107.1174	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04409	107.1174	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04493	107.1148	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.0915	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.0702	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	107.0674	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	107.0671	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	107.0569	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.0456	GEN560248 1-G10_003_2 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.0448	GEN600004 2-PRAIRIE ISLAND G2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.0435	GEN600003 1-PRAIRIE ISLAND G1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	107.0431	GEN532957 1-WAVERGEN1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	107.0195	GEN501801 1-DOLET HILLS UNIT1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	107.0165	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	106.9982	GEN542962 2-IATAN UNIT #2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04394	106.9926	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.9772	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04469	106.9715	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.9633	GEN562694 1-G15_016_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04431	106.9625	LYDIA - WELSH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04431	106.9625	LYDIA - WELSH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.9592	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04503	106.9507	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.9454	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.9406	GEN542956 2-LACYGNE UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04475	106.9395	DBL-BVR-G111
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.9358	GEN635213 3-NEAL UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.9324	GEN600000 1-SHERBURNECNTY G1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.9288	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.9242	GEN542957 1-IATAN UNIT #1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.9113	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.9024	GEN636641 1-LOUISA UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04536	106.895	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.043	106.8818	OTTER - WOODRING 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.8757	GEN600001 2-SHERBURNE CNTY G2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.8739	GEN600005 1-MONTICELLO
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.8456	GEN562772 1-G15034_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.8447	GEN336821 1-GRAND GULF UNIT
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.8444	GEN562658 1-G15_001_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.833	GEN615002 2-COAL CREEK
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.8195	GEN587333 1-G16-048-GEN10.5200
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.8176	GEN525562 1-TOLK GEN #2 24 KV
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.783	GEN588303 1-ASGI1705-GEN0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.7572	GEN515483 1-BLKWLWD1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.7544	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.7426	GEN301382 1-10SAGEWINDG10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04982	106.7422	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0419	106.7389	MDFRDTP4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0445	106.7257	P12:138:OKGE:3TERM1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04496	106.7229	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.7135	GEN600002 3-SHERBURNE CNTY G3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.7128	GEN635214 4-NEAL UNIT 4
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04037	106.695	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.6836	GEN587213 1-G16-032-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0438	106.6556	LYDIA - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0438	106.6556	LYDIA - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.653	GEN336153 1-WATERFORD UNIT#3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04718	106.6265	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.6242	GEN562723 1-G15_030_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.6192	GEN525561 1-TOLK GEN #1 24 KV
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.6171	GEN515622 1-KAYWND11 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04498	106.61	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04407	106.6069	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.6062	GEN587483 1-G16-071-GEN10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.5891	GEN542955 1-LACYGNE UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0419	106.5873	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.5817	GEN515623 1-KAYWND12 0.7000

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04103	106.571	CIMARRON - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04461	106.5526	WAUKOMIS - WAUKOMIS TAP 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04481	106.5495	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04481	106.5495	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.5457	GEN533124 1-FR2E2WF1 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	106.5442	GEN562882 1-G15047_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.5417	GEN344225 1-1CAL G1 25.000
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.5393	GEN533126 1-FR2W2WF1 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.5335	GEN563082 1-G15073_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04403	106.5231	MARSHALL - WOODRING 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0432	106.5229	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.5134	GEN533123 1-FR2E1WF1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.5049	GEN533125 1-FR2W1WF1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.5046	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.5043	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04498	106.5029	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.4993	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04557	106.4955	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04262	106.4878	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04262	106.4878	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0363	106.4841	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04407	106.4544	G16-063-TAP 345.00 - HUGO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.4491	GEN515040 1-SEMINOLE 1G
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.4424	GEN335831 1-RIVERBEND UNIT#1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04403	106.4326	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04457	106.4253	CIMARRON - MATHWSN7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04457	106.4253	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.4149	GEN542962 2-IATAN UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.407	GEN640009 1-COOPER NUCLEAR STATION
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.3951	GEN515042 1-SEMINOLE 3G
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.3933	GEN563022 1-G15066_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0425	106.3888	CIMARRON - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04461	106.3687	HENESSEY - WAUKOMIS 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04305	106.365	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04557	106.3634	G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.3441	GEN563182 1-G15083_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04498	106.3266	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0441	106.3169	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.3051	GEN562691 1-G15_015_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.2878	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04143	106.2711	P12:138:WERE:CRSW-OGE_138::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.2684	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	106.2595	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04704	106.2464	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.2262	GEN509416 1-TURK GENERATION
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04464	106.2032	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.1987	GEN562479 1-G14_001_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.1868	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	106.1606	GEN562902 1-G15052_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04498	106.1594	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04498	106.1587	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04359	106.1572	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04359	106.1572	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04301	106.1571	RENFROW4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.1557	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04461	106.1535	DOVER SW - HENESSEY 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.1484	GEN532720 1-CANEYWF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04338	106.1432	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04478	106.1338	MUSKOGEE - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	106.116	GEN336821 1-GRAND GULF UNIT
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	106.1108	GEN515040 1-SEMINOLE 1G
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04503	106.0701	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.0687	GEN515041 1-SEMINOLE 2G
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.0586	GEN501813 1-RODEMACHER UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	106.053	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04342	106.0526	LACYGNE - STILWELL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0438	106.0416	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.0355	GRAND GULF 500/22.0KV TRANSFORMER CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	106.0313	GEN515484 1-CHSHMVW1 0.5750
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	106.0297	GEN515479 1-CHSHMVE1 0.5750
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	106.0279	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04301	106.0271	RENFROW4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04401	106.0127	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04498	106.0125	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04451	105.9967	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	105.99	GEN501801 1-DOLET HILLS UNIT1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04479	105.9819	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	105.9512	GEN587503 1-G73-073-GEN10.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	105.9511	GEN563242 1-G15090_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	105.9503	GEN562720 1-G15_025_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	105.9486	GEN562718 1-G15_024_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	105.9472	GEN563052 1-G15069_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.9414	GEN509403 1-PIRKEY GENERATION
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.9262	GEN335206 1-NELSON UNIT 6
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04039	105.9211	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	105.8879	GEN562611 1-G14_064_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04318	105.8639	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04318	105.8639	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03542	105.8638	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04212	105.8564	COW CREEK - MORRISON 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	105.8421	GEN587163 1-G16-022-GEN10.6500
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04212	105.8389	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03605	105.8344	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03605	105.8344	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03605	105.8304	CLEVELAND - CLEVELND 4 138.00 138KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.8279	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.8279	GEN523972 1-HARRINGTON GEN #2 24 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.8279	GEN523973 1-HARRINGTON GEN #3 24 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0434	105.8276	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.8218	GEN509406 1-WELSH #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.8216	GEN509404 1-WELSH #1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04475	105.8196	DBL-HTCH-OTA
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.8076	GEN501812 1-RODEMACHER UNIT 2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	105.8029	GEN533141 1-SLATEGEN1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04543	105.7984	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04293	105.7915	DBL-G1524-WI
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.7901	GEN520947 1-HUGO1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04039	105.7899	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04306	105.7882	P12:138:WFEC:MSL14
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	105.7866	GEN336153 1-WATERFORD UNIT#3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	105.7864	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.7804	DELL 500 - ESSEX UNIT 2 500KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04306	105.7754	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04305	105.7696	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.7678	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03915	105.7644	STILLWATER - UNVRSTY4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04412	105.7238	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05562	105.7199	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	105.7162	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04346	105.7128	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.7058	GEN527902 1-HOBBS PLANT #2 (CT)
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.7058	GEN527901 1-HOBBS PLANT #1 (CT)
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03629	105.7022	DBL-THIS-WWR
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6867	GEN334440 1-SABINE UNIT 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04306	105.6845	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03915	105.6789	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	105.6726	GEN514643 1-BRKWND11 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6713	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6642	GEN526332 1-JONES GEN #2 21 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.664	GEN526331 1-JONES GEN #1 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04327	105.6632	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04327	105.6632	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05562	105.6464	G16-072-TAP 345.00 - RENFROW7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6452	NEW MADRID 161/22.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04502	105.6385	P12:138:OKGE:3TERM11

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6336	NEW MADRID 345/22.0KV TRANSFORMER CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	105.6301	GEN587413 1-G16-061-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6231	GEN587387 1-G16-057-GEN20.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6229	GEN587383 1-G16-045-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6212	GEN514910 2-REDBUD GEN
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6207	GEN587307 1-G16-045-GEN20.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6206	GEN587303 1-G16-045-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04227	105.6108	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04227	105.6108	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04304	105.6104	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04304	105.6104	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.6051	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0417	105.5944	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0417	105.5944	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04305	105.5909	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0432	105.5893	OTTER - WOODRING 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	105.5747	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04445	105.5658	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04445	105.5658	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.5656	GEN514942 2-REDBUD4G
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.5656	GEN514911 2-REDBUD GEN
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.5551	GEN526333 1-JONES GEN #3 21 KV
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	105.5466	GEN514805 1-SOONER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04317	105.5421	P12:138:AEPW:OKMULGE4:R.S.S-4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04306	105.536	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	105.5232	GEN335831 1-RIVERBEND UNIT#1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04383	105.5189	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04403	105.5133	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.5111	GEN514940 1-REDBUD GEN
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.5052	GEN514900 1-REDBUD2S
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.5051	GEN514899 1-REDBUD1S
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	105.4998	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.4895	GEN335204 1-NELSON UNIT 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.4856	GEN336251 1-NINEMILE POINT UNIT#4

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.4845	GEN336831 1-BAXTER WILSON SES
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04217	105.4809	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04217	105.4766	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04217	105.4765	3TR3AR8EL7EL
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.4722	GEN334441 1-SABINE UNIT 5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04038	105.464	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04038	105.464	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04038	105.464	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04038	105.464	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.4587	GEN514905 1-REBUD3S
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04327	105.4569	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04327	105.4569	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	105.454	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04166	105.4521	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04166	105.4521	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.4438	P12:069:OKGE:3TERM4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.4357	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04269	105.4338	DEWEY - SOUTHARD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04364	105.432	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04265	105.4246	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04265	105.4246	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05397	105.4245	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05397	105.4245	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04501	105.4129	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.3996	GEN527163 1-MUSTANG GEN #3 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0429	105.398	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0429	105.398	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04103	105.3902	GRACEMONT - MINCO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04316	105.3884	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	105.3861	GEN514939 1-HORSESHOE LAKE 8G

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3852	GEN527882 1-CUNNINGHAM GEN #2 20 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3748	GEN334071 1-LEWIS CREEK 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3744	GEN334433 1-SABINE UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04336	105.3722	PECULIAR - STILWELL 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3699	GEN334070 1-LEWIS CREEK 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04166	105.3681	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04166	105.3681	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.03915	105.3639	KINZE - MCELROY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3566	GEN525494 1-PLANT X GEN #4 20 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3547	GEN511851 1-COMANCHE #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.352	GEN527161 1-MUSTANG GEN #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.352	GEN527162 1-MUSTANG GEN #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04268	105.3492	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04268	105.3492	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3474	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3449	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3441	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3424	GEN337041 1-GERALD ANDRUS
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04445	105.3389	KNIFE 4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04401	105.3354	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04269	105.3312	ROMAN NOSE - SOUTHWARD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04456	105.3285	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04456	105.3285	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3284	GEN509409 1-WILKES #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3203	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04315	105.3197	CLEARWATER - VIOLA 4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3196	GEN562587 1-G14_056_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04445	105.3157	KNIFE 4 138.00 - TRYON 4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3151	GEN527884 1-CUNNINGHAM GEN #4 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3126	GEN527883 1-CUNNINGHAM GEN #3 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04241	105.3116	WEBRE - WELLS 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.3109	GEN587233 1-G16-037-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04151	105.3097	STILLWATER - UNVRSTY4 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04264	105.309	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.3089	GEN501811 1-RODEMACHER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04493	105.3077	TRYON 4 138.00 - WARWICK 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03979	105.3006	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0427	105.2973	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2926	GEN336464 1-MICHOUD UNIT #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03906	105.2917	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03906	105.2903	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	105.2897	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04151	105.2887	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2859	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2854	GEN303007 1-1BC2 U2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	105.2841	GEN509416 1-TURK GENERATION
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04313	105.2841	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04342	105.2839	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2837	GEN303006 1-1BC2 U1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04323	105.283	DBL-SPRVL-IR
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	105.2793	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04353	105.2764	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2746	GEN521110 1-ORME1 13.800
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2704	GEN334030 1-FRONTIER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.269	GEN334031 1-FRONTIER UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2676	GEN521111 1-ORME2 13.800
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0494	105.2668	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05641	105.2643	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	105.2614	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04163	105.2576	P12:138:WERE:CRSW-OGE_138::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04338	105.2572	P12:138:WERE:MURR-MKEC_138P::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2505	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04316	105.2499	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04316	105.2497	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2489	GEN515602 1-KNGFSR12 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2468	FRONTIER - GRIMES 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.2412	GEN303008 1-1BC2 U3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04354	105.2378	P13:069-138:WERE:ELPA_TX-1::

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0494	105.2372	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04501	105.2371	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04266	105.2285	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04266	105.2285	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	105.2281	GEN533124 1-FR2E2WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.2256	GEN336170 1-GULF OXY U4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04529	105.2227	ROSS TAP - WARWICK 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	105.2217	GEN533126 1-FR2W2WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04151	105.2191	KINZE - MCELROY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04502	105.2114	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04502	105.2114	SAPULPA ROAD - WEKIWA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04304	105.21	GILL ENERGY CENTER SOUTH - VIOLA 4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.2087	P12:138:WFEC:MSL13
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04353	105.2074	EL PASO - FARBER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0494	105.2065	DOMES - MOUND ROAD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04266	105.2061	P12:138:WFEC:MSL10
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04296	105.2053	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04278	105.2024	CRESENT - TWIN LAKES 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.2014	GEN520811 1-ANADRK4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.1994	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	105.1982	GEN533123 1-FR2E1WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04316	105.198	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	105.1926	GEN562772 1-G15034_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	105.1923	GEN562658 1-G15_001_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04326	105.1922	GEN514806 1-SOONER UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04279	105.1905	P12:069:OKGE:3TERM3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04571	105.19	GEN533125 1-FR2W1WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04379	105.1899	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04331	105.1899	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.1863	GEN515443 1-MNCOWND1 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0431	105.185	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.1789	GEN524023 1-NICHOLS GEN #3 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04266	105.1756	PHAROAH - WETUMKA4 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04438	105.1687	CLEAVELAND - SILVER CITY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.1649	GEN501910 1-ACADIA UNIT ST1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05084	105.1602	4REMINGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.16	GEN523461 1-BLACKHAWK GEN #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.16	GEN523462 1-BLACKHAWK GEN #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	105.1599	ELDORADO EHV - SHERIDAN EHV 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	105.1551	PARAGON4 138.00 - WETUMKA4 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.154	GEN336222 1-LITTLE GYPSY UNIT#2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.1539	GEN511853 1-COMANCHE #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	105.1534	PARAGON4 138.00 - TRNCNDACV4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.1476	P12:138:WFEC:MSL09
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04529	105.1471	LINCOLN - ROSS TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.1468	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.1413	GEN511852 1-COMANCHE #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.1373	GEN520813 1-ANADRK6
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.1373	GEN520812 1-ANADRK5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0429	105.1365	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0429	105.1365	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04269	105.1347	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	105.1344	GEN525562 1-TOLK GEN #2 24 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04278	105.1312	COTTONWOOD CREEK - CRESENT 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.1293	GEN336152 1-WATERFORD UNIT#2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.1287	GEN336151 1-WATERFORD UNIT#1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	105.1278	GEN525561 1-TOLK GEN #1 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	105.1278	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04263	105.1273	P12:161:AEPW-SWPA:BEAVERS5:EROGERS5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.127	GEN521112 1-ORME3 13.800
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04893	105.126	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04893	105.126	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.126	RODEMACHER 230/22.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.1251	P12:161:AEPW:DYESS5:ELMSPRNG:TONTITN5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04418	105.1246	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.1244	GEN562590 1-G14_057_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04184	105.1166	LACYGNE - NEOSHO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04311	105.1154	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04278	105.1098	P12:161:AEPW:EROGERS5:ECNTRTN5

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.1097	GEN528501 1-G14_012 24.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.1074	GEN515607 1-CANDN12 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.1074	GEN515606 1-CANDN11 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04292	105.1057	OKEENE - WATONGA SW 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04298	105.1045	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04266	105.0912	LAYFLD8 500.00 - MOUNT OLIVE 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04266	105.0912	LAYFLD8 500.00 - MOUNT OLIVE 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04293	105.0894	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04293	105.0894	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0874	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0855	GEN560105 1-G08-22 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0797	GEN501823 1-TECHE UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0789	GEN562550 1-G14_040_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04479	105.0762	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0758	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0734	ST FRANCIS 161/16.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0734	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04268	105.0732	ALTOONA - BUTLER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04268	105.0729	P13:069-138:WERE: BUTL_TX-1::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0723	GEN501970 1-EVANGELINE UNIT 7
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04313	105.071	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04291	105.0696	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04291	105.0696	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0693	GEN337766 1-TRACTEBEL UNIT S1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04266	105.0681	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04266	105.0681	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04353	105.0675	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0653	GEN563062 1-G15071_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0646	GEN334432 1-SABINE UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	105.0645	GEN334431 1-SABINE UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04296	105.0623	CRAIG - WEST GARDNER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04353	105.0605	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04266	105.0598	CROMWELL - TRNCNDACV4 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04489	105.0592	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04291	105.0582	NEOSHO - SUB 452 - RIVERTON 161KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04294	105.0575	KETCH - KETCH TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04418	105.0562	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0491	GEN587423 1-G16-062-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0451	GEN334392 1-EXXON MOBIL IPP 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	105.0449	ALVA - ALVA 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0429	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0412	GEN334394 1-EXXON MOBIL IPP 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0412	GEN334393 1-EXXON MOBIL IPP 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0402	GEN562602 1-G15_029_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04893	105.0397	P12:138:AEPW:BV-COM-4:BV-SE--4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04316	105.0385	BOWMAN - KINGINDT2 69.000 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0375	GEN514912 2-REDBUD GEN
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0344	GEN501972 1-EVANGELINE UNIT 7-2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0344	GEN501971 1-EVANGELINE UNIT 7-1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.034	GEN525844 1-ELK_1 118.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0318	GEN524022 1-NICHOLS GEN #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0305	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0304	ST FRANCIS 2 161/16.0KV TRANSFORMER CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0276	GEN336242 1-1NMIL ST1 18.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04178	105.0275	FAIRMONT TAP - WOODRING 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0249	GEN501912 1-ACADIA UNIT CT1B
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04318	105.0249	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0245	GEN501911 1-ACADIA UNIT CT1A
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04316	105.0212	KINGINDT2 69.000 - OKRCHET2 69.000 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0203	DOVER - DOVER SW 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04233	105.018	FULTON 115 - HOPE 115KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04233	105.018	FULTON 115 - HOPE 115KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0171	GEN562270 1-G12-020-2 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0133	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0125	GEN337764 1-TRACTEBEL UNIT C1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	105.0125	GEN337765 1-TRACTEBEL UNIT C2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04297	105.0116	GOLTYTP2 69.000 - HELENA TAP 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04153	105.0106	P12:138:OKGE:3TERM47

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04297	105.009	GOLTYTP2 69.000 - IMO 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04377	105.0085	4WOODY 138.00 - BRISTOW 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.9996	GEN524295 1-SPNSPUR_WND10.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0425	104.9868	GRACEMONT - MINCO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	104.9766	GEN562723 1-G15_030_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04514	104.9733	CIMARRON - MATHWSN7 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04514	104.9733	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.9642	GEN520947 1-HUGO1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.958	GEN515041 1-SEMINOLE 2G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.9567	GEN501813 1-RODEMACHER UNIT 3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	104.9501	GEN587483 1-G16-071-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04501	104.932	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.9315	GEN515042 1-SEMINOLE 3G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04374	104.8947	MARSHALL - WOODRING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.8876	GEN509403 1-PIRKEY GENERATION
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04305	104.8768	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04293	104.8369	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04324	104.8196	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.797	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04374	104.7897	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	104.7773	GEN562691 1-G15_015_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.7759	GEN335206 1-NELSON UNIT 6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.763	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	104.7553	GEN563022 1-G15066_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.7508	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.7496	GEN509406 1-WELSH #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.7494	GEN509404 1-WELSH #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.733	GEN514999 1-MCCLAIN UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.733	GEN514998 1-MCCLAIN UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04253	104.7166	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04312	104.7046	CIMARRON - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.7016	GEN334440 1-SABINE UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	104.6925	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.6897	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0438	104.6835	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	104.6817	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.6542	GEN501812 1-RODEMACHER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04228	104.6411	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04228	104.6411	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04275	104.6358	P12:138:WFEC:MSL14
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04275	104.6195	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.6119	GEN514936 1-HORSESHOE LAKE 7S
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04438	104.6087	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04501	104.6017	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04501	104.6011	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	104.6	GEN562429 1-G13-029 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04306	104.5891	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.5846	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05647	104.5771	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.5728	GEN515000 1-MCCLAIN UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06867	104.5489	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03595	104.5478	CLEVELAND - CLEVLND 4 138.00 138KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03595	104.5478	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03595	104.5478	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03595	104.5478	CLEVELAND - CLEVLND 4 138.00 138KV CKT Z1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	104.5312	GEN515484 1-CHSHMVW1 0.5750
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.5307	P12:069:OKGE:3TERM4
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	104.5297	GEN515479 1-CHSHMVE1 0.5750
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.5269	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	104.5235	GEN562902 1-G15052_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.5184	GEN336831 1-BAXTER WILSON SES
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04275	104.5166	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0443	104.5098	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0443	104.5098	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.4819	DELL 500 - ESSEX UNIT 2 500KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.4586	GEN334441 1-SABINE UNIT 5

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	104.4427	GEN562611 1-G14_064_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04243	104.4415	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04243	104.4415	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.4191	GEN514910 2-REDBUD GEN
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.4188	GEN514942 2-REDBUD4G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.4188	GEN514911 2-REDBUD GEN
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04446	104.4132	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.4005	NEW MADRID 161/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04228	104.3992	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04228	104.3992	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3908	GEN514912 2-REDBUD GEN
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3897	NEW MADRID 345/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3892	GEN335204 1-NELSON UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03998	104.386	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04446	104.3789	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.377	GEN525845 1-ELK_2 1 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3764	GEN525844 1-ELK_1 118.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04352	104.3707	G15095_T 138.00 - MOORELAND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3697	GEN300015 1-1SGPDEL 18.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04264	104.3644	MULLERGREN - SPEARVILLE 230KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04264	104.3644	MULLERGREN - SPEARVILLE 230KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3601	GEN645024 4-NORTH OMAHA 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04242	104.3558	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04192	104.3556	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04192	104.3556	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03859	104.3554	MARLAND TAP - OSAGE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04446	104.3547	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3538	GEN546698 1-QN GEN2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04272	104.3523	FLATRDRG3 - THISTLE4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04272	104.3523	FLATRDRG3 - THISTLE4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04272	104.3521	THISTLE7 345.00 (THISTLE T1) 345/138/13.8KV TRANSFORMER CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3515	GEN659018 1-G14_003IS_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04305	104.3497	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04275	104.3483	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3477	GEN300013 1-HOLDEN UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3477	GEN300012 1-HOLDEN UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3472	GEN659031 1-G12_014IS_4 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04252	104.3389	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3363	GEN600067 9-HIGH BRIDGE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3356	GEN337041 1-GERALD ANDRUS
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03972	104.3355	P12:345:SPS:J07.1.FINN.HITCH
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3346	GEN659289 1-DAYCNTYWND W0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	104.3305	FLATRDG3 - HARPER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	104.3305	FLATRDG3 - HARPER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04227	104.3295	DOLET HILLS 345/230KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04288	104.3262	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04288	104.3262	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3259	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3259	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04256	104.324	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04256	104.324	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3212	GEN549890 1-SOUTHWEST 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.32	GEN659354 1-DEERCREK STG18.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3198	GEN659353 1-DEERCREK CTG18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3191	GEN587387 1-G16-057-GEN20.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3189	GEN587383 1-G16-045-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	104.3169	CHISNEY - CLARKSVILLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3167	GEN587307 1-G16-045-GEN20.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3166	GEN587303 1-G16-045-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04501	104.3098	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3074	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04272	104.3065	MCCLAIN - STHLAKE4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3028	GEN334433 1-SABINE UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.3025	GEN629072 4-LANSING GENERATOR FOR UNITS NO4 EIA CODE 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.3002	GEN338146 1-INDEPENDENCE UNIT #2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04312	104.2986	4LUTHERD 138.00 - LUTHER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04265	104.2985	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04301	104.2964	LACYGNE - STILLWELL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04169	104.2941	COW CREEK - MORRISON 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2936	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2917	GEN530594 1-SMKYP1G1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.2917	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2911	GEN300010 1-ST FRANCIS UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03976	104.2907	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03976	104.2907	KINZE - STILLWATER KINZIE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04294	104.2889	OVEXFRMCCOVE
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04272	104.2885	SARA - STHLAKE4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.2867	GEN514940 1-REDBUD GEN
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04704	104.2838	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.2803	GEN514905 1-REDBUD3S
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.2796	GEN514899 1-REDBUD1S
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.2796	GEN514900 1-REDBUD2S
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	104.2759	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2755	GEN300020 1-1CHOTCT4 16.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2751	GEN300021 1-1CHOTCT5 16.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	104.2748	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.2747	TUPELO - TUPELO TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2746	GEN300033 1-CHOUTEAU STG 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2746	GEN300032 1-CHOUTEAU CTG 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2697	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0419	104.2697	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04279	104.2696	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04169	104.2684	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.2647	GEN527166 1-MUSTANG_6 118.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	104.2621	CHISNEY - HIGHLAND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2583	GEN300024 1-1CHOTST6 16.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2581	GEN300031 1-CHOUTEAU CTG 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04285	104.2566	QUAIL CREEK - SKYLINE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2537	GEN345671 2-1RUSH G2 18.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.2524	GEN345670 1-1RUSH G1 18.000

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element			RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	104.2515	GEN300011 1-ST FRANCIS UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04279	104.2512	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	104.244	GEN657749 1-YOUNG 1 GENERATOR
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04312	104.2421	P12:138:AECI:STROUD-LUTHER
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04246	104.2404	GEN335614 1-WILLOW GLENN UNIT#4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04267	104.2395	P12:138:WFEC:MSL03
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04208	104.2385	HOLCOMB - SETAB 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04208	104.2385	HOLCOMB - SETAB 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	104.2382	GEN505432 1-SIKESTON
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.03998	104.23	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04494	104.2256	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	104.2233	GEN645025 5-NORTH OMAHA 5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04272	104.2208	CIMARRON - SARA 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04284	104.2193	MORGAN - MUSTANG 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04305	104.2183	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.03972	104.2167	Hitchland Interchange - WALKTAP7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.03972	104.2167	Hitchland Interchange - WALKTAP7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04277	104.2133	GEN542954 3-MONTROSE UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.0429	104.2108	P12:138:AEPW:OKMULGE4:R.S.S-4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04279	104.2059	FAIRVIEW - OKEENE 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04246	104.2028	GEN336464 1-MICHOUD UNIT #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04284	104.2017	MORGAN - XEROX 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04284	104.1987	CZECH HALL - XEROX 138KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04547	104.1897	GEN514805 1-SOONER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04376	104.1896	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04246	104.1872	GEN523972 1-HARRINGTON GEN #2 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04246	104.1871	GEN523973 1-HARRINGTON GEN #3 24 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04246	104.1871	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04266	104.1864	HIGHLAND - PINK SW 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04202	104.1852	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04246	104.1828	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04309	104.1824	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04187	104.1812	MINGO - SETAB 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T	345.00 - MATHWSN7	345.00 345KV CKT 1	956	956	0.04187	104.1812	MINGO - SETAB 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04307	104.18	DBL-SPRVL-IR
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04494	104.1789	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1754	GEN526334 1-JONES_4 116.500
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1754	GEN526333 1-JONES GEN #3 21 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1713	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04109	104.1701	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.17	GEN681522 3-GENOA 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03816	104.1675	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1673	GEN641089 2-ENERGY CENTER 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03816	104.1665	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04273	104.1662	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04273	104.1662	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1661	GEN659110 1-LELAND OLDS UNIT1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1632	GEN549893 2-SOUTHWEST 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04494	104.1601	NEWKIRK4 - PECKHAM TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04243	104.1581	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04227	104.1561	DEWEY - SOUTHARD 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1554	CLAY BOSWELL 230/20.9KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04265	104.1523	G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04353	104.1499	P12:138:WERE:ELPA-SUMN_138::
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1481	GEN590010 1-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.144	GEN527901 1-HOBBS PLANT #1 (CT)
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.144	GEN527902 1-HOBBS PLANT #2 (CT)
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0428	104.1435	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04284	104.1426	CIMARRON - CZECH HALL 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	104.1399	P12:069:OKGE:3TERM3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1388	4SIOUX 1 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04494	104.1372	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04111	104.1326	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04111	104.1326	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1316	GEN509409 1-WILKES #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1295	GEN344895 2-1LAB G2 20.000

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1288	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1232	GEN590011 2-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1213	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04314	104.1208	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04489	104.1173	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1147	GEN300001 1-THOMAS HILL UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04336	104.1139	CIMARRON - NORTHWEST 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1127	GEN344896 3-1LAB G3 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1124	GEN526332 1-JONES GEN #2 21 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1123	GEN526331 1-JONES GEN #1 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1119	GEN344897 4-1LAB G4 20.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1116	GEN344894 1-1LAB G1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1101	GEN334071 1-LEWIS CREEK 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04288	104.1098	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.1097	GEN672321 1-SHAND GENERATOR 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1043	GEN514935 1-HORSESHOE LAKE 6G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.1042	GEN334070 1-LEWIS CREEK 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.0998	4REMNGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.0965	GEN672310 1-POPLAR RIVER GENERATOR 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.0965	GEN672311 2-POPLAR RIVER GENERATOR 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.0936	GEN509398 1-KNOXLEE #5
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	104.0918	GEN514806 1-SOONER UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.0898	GEN672306 6-BOUNDARY DAM GENERATOR 6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.0882	GEN511851 1-COMANCHE #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.0878	GEN562892 1-G15048_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.0808	4OSAGEWIND 138.00 - 4REMNGTON 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.075	GEN681542 6-JP MADGETT
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04202	104.0726	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04202	104.0726	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04182	104.0659	MINGO - RED WILLOW 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04182	104.0659	MINGO - RED WILLOW 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.0647	ALMA 161 161/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.0583	GEN303007 1-1BC2 U2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.0566	GEN303006 1-1BC2 U1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.0541	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.0522	GEN501811 1-RODEMACHER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04095	104.0519	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04095	104.0519	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.0514	GEN336222 1-LITTLE GYPSY UNIT#2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04212	104.0458	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.041	GEN513602 1-GRECSTG_1 17.500
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.0397	GEN530690 1-PRWINDG1 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04746	104.0373	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05089	104.0365	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04355	104.0353	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04373	104.0343	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	104.0164	GEN547649 1-ASBURY UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.0079	GEN336152 1-WATERFORD UNIT#2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.0076	GEN336151 1-WATERFORD UNIT#1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	104.0026	GEN303008 1-1BC2 U3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04435	103.9963	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04435	103.9963	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9898	GEN562587 1-G14_056_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04195	103.9893	HUGO - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04195	103.9893	HUGO - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9826	GEN336170 1-GULF OXY U4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04451	103.9813	4MEMORAL 138.00 - LUTHER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04288	103.9812	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04288	103.981	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.9793	GEN513601 1-GRECCTG_1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04241	103.9778	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9739	GEN334030 1-FRONTIER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9727	GEN334031 1-FRONTIER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9674	P12:161:AEPW:DYESS:ELMSRNG:TONTITN5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04276	103.9672	P12:138:AEPW:CORNVL4:DUNCAN-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9663	GEN509408 1-WILKES #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9616	GEN587233 1-G16-037-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04933	103.9534	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.9513	GEN661015 1-COYOTE

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	103.951	GEN514805 1-SOONER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04227	103.9484	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04933	103.9415	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04503	103.9366	P12:138:OKGE:3TERM11
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04372	103.9304	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9287	GEN520812 1-ANADRK5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9287	GEN520813 1-ANADRK6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9251	GEN521110 1-ORME1 13.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04256	103.9241	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04256	103.9241	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.921	GEN511847 1-SOUTHWESTERN STATION #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9191	FRONTIER - GRIMES 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.9176	GEN620315 1-BIG STONE GEN
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9176	GEN527163 1-MUSTANG GEN #3 22 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	103.9168	FRANKLIN - PINK SW 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.9149	GEN509394 1-FLINT CREEK
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04167	103.9139	LYDIA - WELSH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04167	103.9139	LYDIA - WELSH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04182	103.9133	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.911	GEN520811 1-ANADRK4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9085	GEN515602 1-KNGFSR12 0.7000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9065	GEN514883 1-SPRING CREEK UNIT 3 AND 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04212	103.9065	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9056	GEN527882 1-CUNNINGHAM GEN #2 20 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.9041	GEN515225 1-MUSKOGEE 5G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.904	GEN514882 1-SPRING CREEK UNIT 1 AND 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04182	103.904	3TR3AR8EL7EL
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04182	103.904	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	103.9025	G1524G1525 345.00 - WICHITA 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	103.9025	G1524G1525 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.901	GEN515226 1-MUSKOGEE 6G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04088	103.9008	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04088	103.9008	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04088	103.9008	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04088	103.9008	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8962	GEN515223 1-MUSKOGEE 4G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04307	103.8955	PECULIAR - STILWELL 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.8942	GEN512688 2-GRDA1 GSU2 22
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8891	GEN501910 1-ACADIA UNIT ST1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04282	103.8866	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04933	103.8852	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04557	103.8834	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.8813	GEN657748 1-YOUNG 2 GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04288	103.8799	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04451	103.8794	P12:138:AECI:LUTHER-JONES
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8782	GEN525494 1-PLANT X GEN #4 20 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.8766	GEN560248 1-G10_003_2 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.8752	GEN532957 1-WAVERGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04933	103.8731	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04237	103.8646	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8635	GEN514890 1-SMITH 1G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04247	103.8616	P12:161:AEPW:EROGERS5:ECNTRTN5
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04212	103.8613	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.8601	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04451	103.8553	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04214	103.8542	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04214	103.8542	LAWTON EASTSIDE - OKLAUNION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8515	GEN511853 1-COMANCHE #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8497	GEN527161 1-MUSTANG GEN #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04352	103.8461	NOEL_SW 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8454	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8444	GEN527164 1-MUSTANG GEN #4 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8417	GEN527165 1-Mustang Gen #5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05563	103.8416	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.841	GEN511850 1-SOUTHWESTERN STATION #5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.841	GEN511849 1-SOUTHWESTERN STATION #4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.841	GEN527162 1-MUSTANG GEN #2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.8404	GEN546702 1-NM GEN N1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04131	103.8401	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04131	103.8401	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04543	103.8391	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8371	GEN515443 1-MNCOWND1 0.7000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8369	GEN334432 1-SABINE UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8368	GEN334431 1-SABINE UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04933	103.8365	DOMES - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8355	GEN511852 1-COMANCHE #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04372	103.8352	EL PASO - FARBER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.8314	GEN600004 2-PRAIRIE ISLAND G2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.8298	GEN600003 1-PRAIRIE ISLAND G1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04372	103.8293	P13:069-138:WERE:ELPA_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8249	GEN527884 1-CUNNINGHAM GEN #4 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8239	GEN527883 1-CUNNINGHAM GEN #3 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8195	GEN587323 1-9GEN-2016-4713.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8195	GEN587325 1-11GEN-2016-413.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8195	GEN587322 1-8GEN-2016-4713.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8195	GEN587324 1-10GEN-2016-413.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8195	GEN587326 1-12GEN-2016-413.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04062	103.8154	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04062	103.8154	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03954	103.8148	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.814	GEN600006 1-AS KING
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.8137	GEN337766 1-TRACTEBEL UNIT S1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03906	103.8071	MDFRDTP4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.8008	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0426	103.8	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0426	103.8	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.7976	GEN511840 1-NORTHEASTERN STATION #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04356	103.7972	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7956	GEN521111 1-ORME2 13.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04276	103.7956	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	103.7946	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05744	103.7893	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.7869	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04578	103.7821	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04413	103.78	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04413	103.78	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7799	RODEMACHER 230/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.043	103.7738	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.043	103.7738	CANADIAN RIVER - PITTSBURG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05094	103.7704	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7702	GEN501970 1-EVANGELINE UNIT 7
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7701	GEN562590 1-G14_057_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7675	GEN521112 1-ORME3 13.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04253	103.7578	P12:345:GRDA:CHOUTEAU-SPORTSMANACRES
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7546	GEN515607 1-CANDN12 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7546	GEN515606 1-CANDN11 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04881	103.7517	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04881	103.7517	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04229	103.7509	P12:161:AEPW-SWPA:BEAVERS5:EROGERS5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04279	103.7495	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04406	103.7462	CLEVELAND - SILVER CITY 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7445	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7445	ST FRANCIS 161/16.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04151	103.7441	FAIRMONT TAP - WOODRING 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.744	GEN300002 1-THOMAS HILL UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7407	GEN338388 1-1PLUM PT U1 23.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7406	GEN336221 1-LITTLE GYPSY UNIT#1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04241	103.7399	CRESENT - TWIN LAKES 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04266	103.7386	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.7373	GEN300006 1-NEW MADRID UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7372	GEN337764 1-TRACTEBEL UNIT C1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7372	GEN337765 1-TRACTEBEL UNIT C2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.7365	GEN635213 3-NEAL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04302	103.7356	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7342	GEN336242 1-1NMIL ST1 18.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.7314	GEN300007 1-NEW MADRID UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04206	103.7287	WEBRE - WELLS 500KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7282	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.726	GEN334392 1-EXXON MOBIL IPP 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.724	GEN501972 1-EVANGELINE UNIT 7-2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.724	GEN334393 1-EXXON MOBIL IPP 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.724	GEN334394 1-EXXON MOBIL IPP 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7239	GEN501971 1-EVANGELINE UNIT 7-1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7198	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7159	GEN501912 1-ACADIA UNIT CT1B
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7154	GEN501911 1-ACADIA UNIT CT1A
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05744	103.7149	G16-072-TAP 345.00 - RENFROW7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7125	SABINE 230/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7113	GEN337757 1-DUKE HOTSPRINGS STG1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	103.7112	GEN514806 1-SOONER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7101	GEN336446 1-MICHOUD UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7089	GEN509407 1-WILKES #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7088	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7088	ST FRANCIS 2 161/16.0KV TRANSFORMER CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.7085	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0439	103.7075	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04125	103.7069	LACYGNE - NEOSHO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.7044	GEN562694 1-G15_016_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.7011	GEN501823 1-TECHE UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6932	GEN337430 1-PERYVILLE UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6931	GEN563062 1-G15071_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6926	GEN337428 1-PERYVILLE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04268	103.6914	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6886	GEN524023 1-NICHOLS GEN #3 22 KV
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6856	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04115	103.6848	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04115	103.6848	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04115	103.6843	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04115	103.6843	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6833	GEN503909 1-FULTONU1 1 16.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04249	103.6826	P12:138:AEPW:MOHAWK4:T.NO--4

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04269	103.6795	KETCH - KETCH TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6786	GEN509393 S1-ARSENAL HILL GENS #4 (STALL)
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04245	103.6742	P12:138:WFEC:MSL13
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6742	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04292	103.6727	7LUTESVIL 345.00 - 7ST FRANC 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04299	103.6712	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04299	103.6712	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6676	GEN336241 1-1NMIL CT2 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6676	GEN336240 1-1NMIL CT1 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04305	103.6676	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.6664	GEN587333 1-G16-048-GEN10.5200
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04241	103.6649	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04241	103.6649	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04214	103.6648	BENTON - WICHITA 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.6617	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6614	GEN514897 1-SMITH 1S
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.661	GEN636641 1-LOUISA UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04376	103.6603	P12:138:WERE:CRSW-SUMN_138::
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6602	GEN335612 1-WILLOW GLENN UNIT#2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.66	GEN335570 1-CARVILLE CTG
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.66	GEN335571 1-CARVILLE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03425	103.6566	G15_081T 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6551	GEN506754 1-LEBROCK STEAM 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04146	103.6541	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	103.6532	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	103.6532	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	103.653	P12:138:WFEC:MSL10
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	103.6524	PHAROAH - WETUMKA4 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6523	GEN336167 1-GULF OXY U1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6522	GEN336168 1-GULF OXY U2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6522	GEN336169 1-GULF OXY U3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6516	P12:69:AEPW:NROGERS2:ECNTRTN2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6483	P12:138:WFEC:MSL09

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04307	103.6482	FPL SWITCH - WOODWARD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04376	103.6454	CRESWELL - OXFORD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6435	P12:138:AEPW:YARCH-S4:T.S.E.-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6433	GEN338443 1-PANDA S1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.643	GEN337432 1-PERYVILLE UNIT #5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04199	103.6426	FULTON 115 - HOPE 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04199	103.6426	FULTON 115 - HOPE 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6424	P12:138:AEPW:BA_71ST4:T.S.E.-4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04352	103.6401	G15095_T 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.6396	GEN600001 2-SHERBURNE CNTY G2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.6392	GEN600005 1-MONTICELLO
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04262	103.6386	OKEENE - WATONGA SW 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6377	GEN562550 1-G14_040_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04335	103.6372	CUSHING - GRNWOOD4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6356	SABINE 230/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03979	103.6355	CHIKASKIA - KILDARE4 138KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	103.6345	GEN587413 1-G16-061-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6336	GEN560105 1-G08-22 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0426	103.6329	ELLIS 4 138.00 - MOREWOOD SW 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	103.6325	ALTOONA - BUTLER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6324	GEN521101 1-ANADRK7
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6324	GEN521102 1-ANADRK8
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	103.6321	P13:069-138:WERE: BUTL_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04376	103.6314	OXFORD - SUMNER 4 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6311	GEN563272 1-G15093_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.6301	GEN659111 2-LELAND OLDS UNIT2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	103.6299	SLOCSTGV - MAID 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	103.6299	SLOCSTGV - MAID 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04881	103.6296	P12:138:AEPW:BV-COM-4:BV-SE--4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	103.6286	PARAGON4 138.00 - WETUMKA4 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6285	GEN509392 G2-ARSENAL HILL GENS #3 (STALL)
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04155	103.6272	8WNEWMADRID 500.00 - DELL 500 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	103.6271	PARAGON4 138.00 - TRNCNDACV4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04241	103.6265	COTTONWOOD CREEK - CRESENT 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	103.6254	CRAIG - WEST GARDNER 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6252	GEN338500 1-MCCLELLAN UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	103.6227	5CDRCRST 161.00 - 5LOCSTGV 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04256	103.6226	ALVA - ALVA 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04232	103.6216	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.6208	GEN615001 1-COAL CREEK
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04261	103.6206	P12:161:GRDA:MAID-CEDARCREST
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6202	GEN509391 G1-ARSENAL HILL GENS #2 (STALL)
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.62	GEN615002 2-COAL CREEK
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6198	GEN335644 1-EXXON UNITS
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04229	103.617	MC NIEL 500/115KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6168	GEN303024 1-1G3INTHB 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6168	GEN303026 1-1G4INTHB 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6156	GEN562602 1-G15_029_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6151	GEN523461 1-BLACKHAWK GEN #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	103.6151	GEN523462 1-BLACKHAWK GEN #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04438	103.6151	GREC TAP5 345.00 - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04253	103.6144	CONCORDIA - ELM CREEK 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04253	103.6144	CONCORDIA - ELM CREEK 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04253	103.6135	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04253	103.6135	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0439	103.6106	GLASS MOUNTAIN - MOORELAND 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.6052	GEN588303 1-ASGI1705-GEN0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04278	103.5995	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.5964	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.5912	GEN515483 1-BLKWLWD1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04278	103.5786	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	103.5756	GEN562882 1-G15047_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.5734	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.5651	GEN600000 1-SHERBURNECNTY G1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.5589	GEN301382 1-1OSAGEWINDG10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04127	103.539	LYDIA - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04127	103.539	LYDIA - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.533	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.533	GEN659107 2-ANTELOPE VALLEY UNIT2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04312	103.5285	GRACEMONT - MINCO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.5032	GEN587213 1-G16-032-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04146	103.4938	G16-063-TAP 345.00 - HUGO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.4925	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.4837	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.4767	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04194	103.466	DBL-HTCH-OTA
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03906	103.4609	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.4576	GEN515622 1-KAYWND11 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.4284	GEN515623 1-KAYWND12 0.7000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.3656	GEN635214 4-NEAL UNIT 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.3445	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.3033	GEN563082 1-G15073_3 0.6900
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	103.2959	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.2768	GEN600002 3-SHERBURNE CNTY G3
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04616	103.2539	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04616	103.2539	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03142	103.2407	DBL-G1151-TG
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.2157	GEN344225 1-1CAL G1 25.000
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0414	103.1962	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.1858	GEN563182 1-G15083_3 0.6900
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	103.1388	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04112	103.0379	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04112	103.0379	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.0304	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	103.0039	GEN562479 1-G14_001_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	103.0003	GEN515484 1-CHSHMVW1 0.5750
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	102.9986	GEN515479 1-CHSHMVE1 0.5750
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03821	102.9813	MARLAND TAP - OSAGE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04296	102.9794	BROKEN ARROW NORTH - SOUTH TAP - ONETA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9724	GEN529252 1-OMPA-KAW
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9713	GEN543106 1-BULL CREEK COMBUSTION TURBINE #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9711	GEN640028 1-COLUMCOGENERATION

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04165	102.9672	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04165	102.9672	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9659	GEN600046 1-MECST
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.9658	GEN532720 1-CANEYWF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04239	102.9652	P12:138:OKGE:3TERM21
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	102.9643	G16-037-TAP 345.00 - GRACEMONT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9639	GEN543108 3-BULL CREEK COMBUSTION TURBINE #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9639	GEN543109 4-BULL CREEK COMBUSTION TURBINE #4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9623	GEN543107 2-BULL CREEK COMBUSTION TURBINE #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	102.9618	P12:138:WFEC:MSL08
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04292	102.9618	4WARWICK 138.00 - STROUD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04224	102.9612	KEO EHV - WHITE BLUFF 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9605	GEN640019 1-SHELDON STATION UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.96	GEN511838 1-NORTHEASTERN STATION # 1-1B
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9596	P12:138:OKGE:3TERM14
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04245	102.9594	LONEOAK - NORTHWEST 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9593	GEN539677 3-A. M. MULLERGREN GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9566	GEN600047 1-MECCT1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	102.9556	UNITED CLAY - WEWOKA 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9555	GEN300020 1-1CHOTCT4 16.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9554	GEN511837 1-NORTHEASTERN STATION # 1-1A
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9552	GEN300021 1-1CHOTCT5 16.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9548	GEN300033 1-CHOUTEAU STG 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9548	GEN300032 1-CHOUTEAU CTG 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9527	GEN532671 1-TECUMSEH ENERGY CENTER UNIT 7
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04192	102.9525	DOLET HILLS 345/230KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0424	102.9498	P12:138:AEPW-OGE:WELETK4:MAUD 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04188	102.9491	MINGO - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04188	102.9491	MINGO - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9489	P12:138:AEPW:112GORE4:L.E.S.-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04216	102.9482	ARCADIA - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.042	102.9475	7SPORTSMAN - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04243	102.947	EARLSBORO 4138.00 - FIXICO TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9454	GEN300010 1-ST FRANCIS UNIT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04238	102.9454	BAXTER WILSON SES - RAY BRASWELL SES 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04202	102.9427	HOLCOMB - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04202	102.9427	HOLCOMB - SETAB 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04329	102.9416	7MCCREDIE 345.00 - 7OVERTON 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.941	GEN300024 1-1CHOTST6 16.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9407	GEN300031 1-CHOUTEAU CTG 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04235	102.9387	P12:138:OKGE:3TERM10
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9385	P12:230:UMZB:# 112 #: NU IN SD. NU-RCDC & DRY CREEK XFMR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9381	GEN300012 1-HOLDEN UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9381	GEN300013 1-HOLDEN UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9377	RCDC EAST 4230.00 - RED CEDAR DC 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9368	GEN635692 2-GREATER DES MOINES ENERGY CENTERGT2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9368	GEN635691 1-GREATER DES MOINES ENERGY CENTERGT1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04215	102.9368	CROCKETT - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9356	GEN659018 1-G14_003IS_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04592	102.9354	FITZGERALD CREEK - KINZE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04215	102.9336	LEBROCK - TENASKA RUSK COUNTY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04161	102.9323	HUGO - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04161	102.9323	HUGO - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04111	102.9318	G16-063-TAP 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	102.9267	HAZEL JCT - UNITED CLAY 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04241	102.923	FLATRDG3 - THISTLE4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04241	102.923	THISTLE7 345.00 (THISTLE T1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04241	102.923	FLATRDG3 - THISTLE4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9195	P12:69:AEPW:L.E.S.-2:LAW WC2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9165	BURLINGTON NO1 + NO 2 + NO 3 161/20.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9137	GEN645033 3-SARPY COUNTY 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04213	102.9122	TUPELO - TUPELO TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9109	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.91	7CALAWY 1 345.00 345/25.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9082	GEN541170 4-LAKERD#4 13.800

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9056	GEN659289 1-DAYCNTYWND W0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.9044	GEN657749 1-YOUNG 1 GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04249	102.904	HAMMETT TAP - LINCOLN 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04251	102.9029	QUAIL CREEK - SKYLINE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04293	102.9024	ROSS TAP - WARWICK 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	102.9013	CLARKSVILLE - HAZEL JCT 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8996	GEN600067 9-HIGH BRIDGE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04243	102.8994	EARLSBORO 4138.00 - MAUD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04243	102.8994	EARLSBORO 4138.00 - MAUD 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8983	GEN645024 4-NORTH OMAHA 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8961	GEN629069 1-EMERY STEAM TURBINE 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8883	GEN300011 1-ST FRANCIS UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0425	102.8817	CIMARRON - CZECH HALL 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8801	GEN635693 3-GREATER DES MOINES ENERGY CENTER ST
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8794	GEN505432 1-SIKESTON
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8782	GEN539670 4-JUDSON LARGE GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8757	GEN629072 4-LANSING GENERATOR FOR UNITS NO4 EIA CODE 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04292	102.8754	4LUTHERD 138.00 - 4WARWICK 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8744	GEN541165 1-SHARPR#1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8744	GEN541166 2-SHARPR#2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04223	102.8718	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04223	102.8718	GRAPEVINE INTERCHANGE - STATELINE INTERCHANGE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8708	GEN549890 1-SOUTHWEST 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04204	102.867	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8654	GEN344895 2-1LAB G2 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04249	102.861	HAMMETT TAP - HORSESHOE LAKE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04592	102.8605	FITZGERALD CREEK - PINE ST 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	102.8597	GEN562611 1-G14_064_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8589	P12:138:AEPW:SHERID4:112GORE4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0446	102.8587	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0446	102.8587	RIVERSIDE STATION - SAPULPA ROAD 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8559	GEN542961 6-HAWTHORN COMBUSTION TURBINE #6

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04233	102.8556	P12:138:WFEC:MSL03
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04205	102.8555	G16-049-TAP 345.00 - SPEARVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8518	GEN344896 3-1LAB G3 20.000
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	102.8509	GEN562429 1-G13-029 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8506	GEN344894 1-1LAB G1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8503	GEN344897 4-1LAB G4 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04293	102.8478	LINCOLN - ROSS TAP 138KV CKT 1
08ALL	16WVP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04287	102.8474	GEN587463 1-G16-068-GEN10.6900
08ALL	20WVP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0417	102.8469	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	20WVP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0417	102.8469	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	102.8361	CHISNEY - CLARKSVILLE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04174	102.8348	8HOLND BTM% 500.00 - KEO EHV 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8332	GEN546698 1-QN GEN2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8326	CLAY BOSWELL 230/20.9KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8325	GEN659354 1-DEERCREK STG18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8322	GEN659353 1-DEERCREK CTG18.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04247	102.827	NORTHWEST (NORTWST3) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04247	102.827	NORTHWEST (NORTWST4) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04292	102.826	4LUTHERD 138.00 - LUTHER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8259	PLUM POINT 500/23.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8219	GEN590010 1-ERCOT EQUIVALENCE
08ALL	20WVP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04057	102.8205	CIMARRON - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03992	102.8191	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03992	102.8191	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8153	P12:69:AEPW-OMPA:SNYDER-2:ALTUSJT2:OMALTUS2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8067	INDEPENDENCE 500/26.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8016	GEN542967 9-HAWTHORN UNIT #9
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.8003	GEN547656 1-STATE LINE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7999	GEN590011 2-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7981	GEN532662 1-LAWRENCE ENERGY CENTER UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7975	GEN547657 1-STATE LINE UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	102.7963	CHISNEY - HIGHLAND 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04219	102.7941	DBL-BVR-G111
08ALL	20WVP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.7826	GEN563242 1-G15090_3 0.6900
08ALL	20WVP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.7826	GEN587503 1-G73-073-GEN10.6900

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.7819	GEN562720 1-G15_025_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7819	4REMNGTON 138.00 - ASGI1705 138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.7807	GEN562718 1-G15_024_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7787	GEN672321 1-SHAND GENERATOR 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04111	102.7781	G16-063-TAP 345.00 - HUGO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.777	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7768	GEN532724 1-EVANS ENERGY CENTER GAS TURBINE 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7763	GEN672311 2-POPLAR RIVER GENERATOR 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7763	GEN672310 1-POPLAR RIVER GENERATOR 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04259	102.7746	OVEXFRMCCOVE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04085	102.7721	LYDIA - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04085	102.7721	LYDIA - VALLIANT 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.7685	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04205	102.7643	G13-010T 345.00 - G16-049-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7616	4OSAGEWIND 138.00 - 4REMNGTON 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.76	GEN672306 6-BOUNDARY DAM GENERATOR 6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04292	102.7575	P12:138:AECI:STROUD-LUTHER
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.7572	GEN645011 1-NEBRASKA CITY 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7565	GEN532723 1-EVANS ENERGY CENTER GAS TURBINE 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7535	P12:138:AEPW:DUNCAN-4:L.E.S.-4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04182	102.7532	8BHAM STEEL 500.00 - WEST MEMPHIS 500 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	102.7412	HIGHLAND - PINK SW 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04249	102.7396	G1524G1525 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04249	102.7396	G1524G1525 345.00 - WICHITA 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7336	GEN531447 1-HOLCOMB GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04592	102.7333	COTTONWOOD CREEK - PINE ST 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04205	102.7332	CHISHOLM6 230.00 - SWEETWATER 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04205	102.7323	G13-010T 345.00 - POST ROCK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	102.7255	FAIRVIEW - OKEENE 69KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.7235	KETCH TAP - NORTHWEST 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7208	GEN681522 3-GENOA 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7165	GEN513602 1-GRECSTG_1 17.500

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04247	102.7159	NORTHWEST (NORTWST2) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.715	THOMAS HILL 161/22.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.714	GEN300001 1-THOMAS HILL UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7067	GEN645041 1-CASS COUNTY 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.7045	GEN645042 2-CASS COUNTY 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.7032	GEN563052 1-G15069_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6996	GEN549893 2-SOUTHWEST 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0425	102.6936	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6904	GEN562892 1-G15048_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.6779	GEN587163 1-G16-022-GEN10.6500
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04149	102.6746	DELL 500 - INDEPENDENCE 500KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6734	GEN542953 2-MONTROSE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.673	GEN532672 1-TECUMSEH ENERGY CENTER UNIT 8
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04543	102.6706	KILDARE4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	102.6626	NOEL_SW 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04054	102.6492	FT SMITH - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.646	GEN542954 3-MONTROSE UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6449	GEN659110 1-LELAND OLDS UNIT1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.6413	GEN645012 2-NEBRASKA CITY 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6401	GEN532734 1-GILL ENERGY CENTER UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6389	GEN532733 1-GILL ENERGY CENTER UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03425	102.6362	G15_081T 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.629	GEN541162 1-ARIES STEAM TURBINE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6286	4SIOUX 1 138.00 138/18.0KV TRANSFORMER CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.6248	GEN533141 1-SLATEGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6225	GEN645025 5-NORTH OMAHA 5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6191	GEN661015 1-COYOTE
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04543	102.6147	NEWKIRK4 - NWKRKAT4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6059	GEN681542 6-JP MADGETT
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.6059	GEN641089 2-ENERGY CENTER 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.5997	GEN547649 1-ASBURY UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	102.5996	FRANKLIN - PINK SW 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.5656	GEN509394 1-FLINT CREEK
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.5644	GEN514643 1-BRKWND11 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04543	102.5621	NEWKIRK4 - PECKHAM TAP 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.5566	GEN657748 1-YOUNG 2 GENERATOR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04543	102.5352	MIDLNT4 138.00 - PECKHAM TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	102.533	CHISHOLM7 345.00 - G16-037-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4916	GEN560248 1-G10_003_2 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4906	GEN532957 1-WAVERGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03816	102.4759	MDFRDTP4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04234	102.4733	FRANKLIN - FRANKLIN SW 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4629	GEN620315 1-BIG STONE GEN
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4614	GEN532742 5-EMPORIA ENERGY CENTER UNIT 5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4568	GEN532744 7-EMPORIA ENERGY CENTER UNIT 7
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4568	GEN532743 6-EMPORIA ENERGY CENTER UNIT 6
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.4454	GEN542951 5-HAWTHORN UNIT #5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4417	GEN300006 1-NEW MADRID UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4387	ALMA 161 161/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4365	GEN529201 1-OMCDLEC1 13.800
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4364	GEN532605 1-ELKRVR-WTG1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.4341	GEN640009 1-COOPER NUCLEAR STATION
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4311	GEN300007 1-NEW MADRID UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4241	GEN511840 1-NORTHEASTERN STATION #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4231	GEN532606 1-ELKRVR-WTG2 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.4006	GEN512688 2-GRDA1 GSU2 22
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04058	102.3909	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04058	102.3909	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04328	102.3833	G15095_T 138.00 - ROSE_VALLEY 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04191	102.3722	ARCADIA - NORTHWEST 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.3713	GEN546702 1-NM GEN N1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.3585	GEN300002 1-THOMAS HILL UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04162	102.3581	KEO EHV - WEST MEMPHIS 500 500KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04135	102.3478	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.3477	GEN513601 1-GRECCTG_1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04062	102.347	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04062	102.347	PITTSBURG - VALLIANT 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03142	102.3406	DBL-WWRD-G11
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.3379	GEN600004 2-PRAIRIE ISLAND G2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.3362	GEN600003 1-PRAIRIE ISLAND G1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.3236	GEN600006 1-AS KING
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	102.3092	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04219	102.3037	DBL-HTCH-OTA
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.3034	GEN587333 1-G16-048-GEN10.5200
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	102.3023	GEN587413 1-G16-061-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.3012	GEN511839 1-NORTHEASTERN STATION #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.2958	GEN562694 1-G15_016_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04039	102.2743	OTTER - WOODRING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.2701	GEN588303 1-ASGI1705-GEN0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04471	102.262	4MEMORAL 138.00 - LUTHER 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.2604	GEN629074 1-ARNOLD LOWSIDE OF GSU XFMR
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.2581	GEN587213 1-G16-032-GEN10.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.247	GEN300003 1-THOMAS HILL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	102.2418	CHISHOLM7 345.00 (CHISHOLM) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.2322	GEN600005 1-MONTICELLO
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.2304	BIG STONE 230/24.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.2258	GEN301382 1-10SAGEWINDG10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.2152	GEN515483 1-BLKWLWD1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.199	GEN636641 1-LOUISA UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.1935	GEN635213 3-NEAL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04209	102.1934	P12:230:AEPW:ELKCITY6:SWEETWT6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04242	102.1862	CIMARRON (CIMARON1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04471	102.1764	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04471	102.1764	4MEMORAL 138.00 - KAMO MEMORIAL 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04471	102.1674	P12:138:AECI:LUTHER-JONES
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.1639	GEN615001 1-COAL CREEK
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04221	102.1618	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04221	102.1618	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.1597	GEN532721 1-EVANS ENERGY CENTER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.1575	GEN615002 2-COAL CREEK
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03816	102.1498	G15-015T 138.00 - MDFRDTP4 138.00 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04242	102.1447	CIMARRON (CIMARON2) 345/138/13.8KV TRANSFORMER CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.1441	GEN532725 1-EVANS ENERGY CENTER GAS TURBINE 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.1184	GEN600001 2-SHERBURNE CNTY G2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.1134	GEN515622 1-KAYWND11 0.7000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.0949	GEN515623 1-KAYWND12 0.7000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04205	102.0883	STATELINE INTERCHANGE - STLN-DEMARC6 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04205	102.0878	P12:230:AEPW-SPS:SWEETWT6:WHEELER 6
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04205	102.0875	STLN-DEMARC6 - SWEETWATER 230KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.0831	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.083	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04043	102.0828	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04043	102.0828	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.0767	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.0737	GEN533124 1-FR2E2WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.0678	GEN533126 1-FR2W2WF1 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.0647	GEN542956 2-LACYGNE UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.0597	GEN542957 1-IATAN UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.044	GEN533123 1-FR2E1WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04393	102.044	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04393	102.044	CLARKSVILLE - MUSKOGEE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.0361	GEN533125 1-FR2W1WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.033	GEN600000 1-SHERBURNECNTY G1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04245	102.0277	P12:138:AEPW:CORNVIL4:DUNCAN-4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.0246	GEN562772 1-G15034_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	102.0234	GEN562658 1-G15_001_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	102.0172	GEN344225 1-1CAL G1 25.000
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.9693	GEN659111 2-LELAND OLDS UNIT2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.94	GEN563182 1-G15083_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04214	101.914	G14-074T 345.00 - OKLAUNION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.9093	GEN629075 1-OTTUMWA GENERATOR FOR OTTUMWA UNIT NO 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.8848	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04111	101.8678	G14-057T 345.00 - LAWTON EASTSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.8488	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.8488	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04352	101.8345	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.8177	SHERBURNE CO 345/24.0KV TRANSFORMER CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.7937	GEN563082 1-G15073_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	101.7868	GEN562723 1-G15_030_3 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	101.7544	GEN587483 1-G16-071-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.7502	GEN635214 4-NEAL UNIT 4
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04224	101.7433	CIMARRON - MATHWSN7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04224	101.7433	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04135	101.7133	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.7046	GEN600002 3-SHERBURNE CNTY G3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04214	101.6666	G14-074T 345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	101.6651	GEN542955 1-LACYGNE UNIT #1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04057	101.6432	GRACEMONT - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.64	GEN532720 1-CANEYWF1 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04182	101.6209	MORISNT4 138.00 - STILLWATER 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	101.6057	GEN562691 1-G15_015_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04164	101.577	P12:138:OKGE:3TERM2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	101.5675	GEN542962 2-IATAN UNIT #2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	101.526	GEN563022 1-G15066_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.4784	GEN562479 1-G14_001_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.4567	GEN640010 1-GERALD GENTLEMAN STATION UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.4142	GEN659118 1-LARAMIE RIVER UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.3955	GEN635023 3-WALTER SCOTT UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.3842	GEN533141 1-SLATEGEN1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.3782	GEN587163 1-G16-022-GEN10.6500
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	101.3545	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04915	101.3458	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04097	101.3438	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.3316	GEN640011 2-GERALD GENTLEMAN STATION UNIT 2
08ALL	16WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04349	101.3274	DBL-G1524-WI
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	101.3241	GEN562902 1-G15052_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.2903	GEN562718 1-G15_024_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.2886	GEN562720 1-G15_025_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.2885	GEN563242 1-G15090_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.2884	GEN587503 1-G73-073-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04111	101.2876	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04117	101.287	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04117	101.287	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04753	101.2783	RANCHR7 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03985	101.2133	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03985	101.2133	PITTSBURG - SEMINOLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.2109	GEN514643 1-BRKWND11 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	101.1991	GEN562429 1-G13-029 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03961	101.1666	CIMARRON - MINCO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.1179	GEN563052 1-G15069_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03008	101.1045	DBL-TGA-MATT
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	101.1024	GEN635024 4-WALTER SCOTT UNIT 4
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03998	100.9012	OTTER - WOODRING 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.8678	GEN645011 1-NEBRASKA CITY 1
08ALL	25SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04326	100.8478	GEN587463 1-G16-068-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.7942	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.7764	GEN300003 1-THOMAS HILL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.7743	GEN542951 5-HAWTHORN UNIT #5
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.7626	GEN640009 1-COOPER NUCLEAR STATION
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.7618	GEN562772 1-G15034_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.759	GEN562658 1-G15_001_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.7212	GEN645012 2-NEBRASKA CITY 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04717	100.6948	G15052_T 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.6649	GEN532663 1-LAWRENCE ENERGY CENTER UNIT 5
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	100.6353	GEN587413 1-G16-061-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04167	100.6351	CIMARRON - MATHWSN7 345.00 345KV CKT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04167	100.6351	CIMARRON - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.5276	GEN562723 1-G15_030_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.5105	GEN587483 1-G16-071-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.4923	GEN533126 1-FR2W2WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.4869	GEN533124 1-FR2E2WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.4835	GEN532722 1-EVANS ENERGY CENTER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.4597	GEN533125 1-FR2W1WF1 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.4555	GEN533123 1-FR2E1WF1 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04182	100.3904	DBL-THIS-G15
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04704	100.3814	RANCHR7 345.00 - SOONER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06877	100.3805	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05613	100.3794	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	100.3533	GEN562882 1-G15047_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.3434	GEN542956 2-LACYGNE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04184	100.3337	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04184	100.3337	REDBUD - RIVERSIDE STATION 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05613	100.3008	G16-072-TAP 345.00 - RENFROW7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.2852	GEN563022 1-G15066_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.2761	GEN542957 1-IATAN UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100.2233	GEN562691 1-G15_015_3 0.6900
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	100.2164	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	100	GEN514805 1-SOONER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	100	GEN562902 1-G15052_3 0.6900
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	99.9	GEN562429 1-G13-029 0.6900
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	99.8	GEN515484 1-CHSHMVW1 0.5750
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	99.8	GEN514806 1-SOONER UNIT 2
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	99.8	GEN515479 1-CHSHMVE1 0.5750
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03961	99.8	GRACEMONT - MINCO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	99.7	GEN562611 1-G14_064_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	99.7	GEN542962 2-IATAN UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06103	99.7	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04541	99.7	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04541	99.7	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	99.6	GEN532653 1-JEFFREY ENERGY CENTER UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	99.6	GEN532652 1-JEFFREY ENERGY CENTER UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	99.6	GEN532651 1-JEFFREY ENERGY CENTER UNIT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.06103	99.6	G16-072-TAP 345.00 - RENFROW7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04547	99.5	GEN587463 1-G16-068-GEN10.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	99.2	GEN562882 1-G15047_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04366	99.1	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	99.1	P12:138:WFEC:MSL15
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04071	98.8	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04541	98.6	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04466	98.6	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04427	98.5	P12:138:OKGE:3TERM1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	98.5	GEN514805 1-SOONER UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	98.4	GEN562611 1-G14_064_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	98.4	GEN515479 1-CHSHMVE1 0.5750
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	98.4	GEN515484 1-CHSHMVW1 0.5750
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0334	98.4	DBL-THIS-WWR
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04717	98.3	G15052_T 345.00 - OPENSKY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04558	98.3	MATHWSN7 345.00 - NORTHWEST 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0444	98.3	WUKOMIS - WUKOMIS TAP 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	98.3	GEN514806 1-SOONER UNIT 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	98.3	GEN515042 1-SEMINOLE 3G
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04001	98.3	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0444	98.2	HENESSEY - WUKOMIS 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04281	98.2	RENFROW4 138.00 - RENFROW4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04281	98	RENFROW4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	97.9	GEN587463 1-G16-068-GEN10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04454	97.9	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0444	97.9	DOVER SW - HENESSEY 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05571	97.8	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04281	97.8	VIOLA 7 345.00 (VIOLA 1X) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05571	97.7	G16-072-TAP 345.00 - RENFROW7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04636	97.7	DBL-G1524-WI
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04366	97.7	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	97.7	WAKITA4 138.00 - WAKITAS4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	97.7	GEN336821 1-GRAND GULF UNIT
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	97.6	GEN501801 1-DOLET HILLS UNIT1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	97.5	SANDY_CN_138138.00 - WAKITA4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	97.5	GEN515040 1-SEMINOLE 1G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	97.5	GEN525562 1-TOLK GEN #2 24 KV
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	97.4	GEN587413 1-G16-061-GEN10.6900

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	97.4	GEN336153 1-WATERFORD UNIT#3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	97.4	GEN511848 1-SOUTHWESTERN STATION #3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	97.4	GEN525561 1-TOLK GEN #1 24 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03587	97.4	RENFROW7 345.00 (BANK 1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	97.2	GEN335831 1-RIVERBEND UNIT#1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	97.1	GEN337911 1-ARKANSAS NUCLEAR ONE UNIT #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04457	96.9	COTTONWOOD CREEK - LIBERTY LAKE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.9	GEN514939 1-HORSESHOE LAKE 8G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04676	96.8	SPVALLY4 138.00 - STILLWATER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04457	96.8	LIBERTY LAKE - WATERLOO 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04263	96.8	MORISNT4 138.00 - SOONER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.8	GEN509416 1-TURK GENERATION
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.8	GEN337910 1-ARKANSAS NUCLEAR ONE UNIT #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	96.7	BYRON_138 138.00 - SANDY_CN_138138.00 138KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	96.7	GEN562429 1-G13-029 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04101	96.7	P12:138:WERE:CRSW-OGG_138::
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04465	96.6	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04298	96.6	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.6	GEN515041 1-SEMINOLE 2G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.6	GEN501813 1-RODEMACHER UNIT 3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.6	GEN527903 1-HOBBS PLANT #3 (ST)
08ALL	20L	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04571	96.5	DBL-G1524-WI
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04457	96.5	WATERLOO - WHITESB4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.5	GEN334440 1-SABINE UNIT 4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.5	GEN335206 1-NELSON UNIT 6
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.5	GEN520947 1-HUGO1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.5	GEN528501 1-G14_012 24.000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.5	GEN525845 1-ELK_2 1 18.000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.5	GEN525844 1-ELK_1 118.000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.5	GEN336252 1-NINEMILE POINT UNIT#5
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.5	GRAND GULF 500/22.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03563	96.5	CLEVELAND - CLEVLDN 4 138.00 138KV CKT Z1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03563	96.5	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03563	96.5	CLEVELAND (CLVAUTO1) 345/138/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04436	96.4	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04366	96.4	LATHAM57 345.00 - ROSE HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	96.4	MARSHALL - WOODRING 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04306	96.4	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN501812 1-RODEMACHER UNIT 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN526333 1-JONES GEN #3 21 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN523972 1-HARRINGTON GEN #2 24 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN514999 1-MCCLAIN UNIT 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN337652 1-WHITE BLUFF UNIT #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN523971 1-HARRINGTON GEN #1 24 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN514998 1-MCCLAIN UNIT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN514936 1-HORSESHOE LAKE 7S
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN337653 1-WHITE BLUFF UNIT #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN509403 1-PIRKEY GENERATION
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN523973 1-HARRINGTON GEN #3 24 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.4	GEN336251 1-NINEMILE POINT UNIT#4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	96.3	G16-032-TAP 345.00 345/138KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04279	96.3	CANADIAN RIVER - MUSKOGEE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.3	GEN509406 1-WELSH #3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.3	GEN526334 1-JONES_4 116.500
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.3	GEN527166 1-MUSTANG_6 118.000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.3	GEN335204 1-NELSON UNIT 4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.3	GEN515000 1-MCCLAIN UNIT 3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.3	GEN336831 1-BAXTER WILSON SES
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.3	GEN334441 1-SABINE UNIT 5
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.3	GEN509404 1-WELSH #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.3	P12:069:OKGE:3TERM4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.3	DELL 500 - ESSEX UNIT 2 500KV CKT Z1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04039	96.3	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04039	96.3	FINNEY SWITCHING STATION - WALKTAP7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04717	96.2	OPENSKY7 345.00 - RANCHR7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04457	96.2	SHDWLKE4 138.00 - WHITESB4 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04457	96.2	MITCHSB4 138.00 - SHDWLKE4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04407	96.2	BLACKBERRY - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04302	96.2	LACYGNE - STILWELL 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04299	96.2	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	96.2	BYRON_138 138.00 - C_CITY_138 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04264	96.2	BEARCAT 138.00 - MOORELAND 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04264	96.2	P12:138:WFEC:MSL14
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	96.2	GEN587413 1-G16-061-GEN10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.2	GEN526331 1-JONES GEN #1 22 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.2	GEN526332 1-JONES GEN #2 21 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.2	GEN337041 1-GERALD ANDRUS
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.2	GEN334433 1-SABINE UNIT 3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04224	96.2	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04224	96.2	G1524G1525 345.00 - THISTLE7 345.00 345KV CKT 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0417	96.2	COW CREEK - MORRISON 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0417	96.2	MORISNT4 138.00 - MORRISON 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03998	96.2	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03998	96.2	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03997	96.2	OTTER - WARREN VALLEY 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	96.1	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04276	96.1	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04276	96.1	TULSA NORTH - WEKIWA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04264	96.1	BEARCAT 138.00 - NINE MILE 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	96.1	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.1	GEN514910 2-REDBUD GEN
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.1	GEN527901 1-HOBBS PLANT #1 (CT)
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.1	GEN514912 2-REDBUD GEN
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.1	GEN514911 2-REDBUD GEN
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.1	GEN514942 2-REDBUD4G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.1	GEN527902 1-HOBBS PLANT #2 (CT)
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.1	GEN336191 1-LITTLE GYPSY UNIT#3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96.1	GEN335614 1-WILLOW GLENN UNIT#4

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03997	96.1	COW CREEK - WARREN VALLEY 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03008	96.1	DBL-G1151-TG
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04263	96.01808	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04263	96.01808	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04457	96	KETCH TAP - MITCHSB4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04371	96	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	96	C_CITY_138 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04276	96	P12:138:AEPW:OKMULGE4:R.S.S-4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04264	96	MOREWOOD SW - NINE MILE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN587303 1-G16-045-GEN10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN338146 1-INDEPENDENCE UNIT #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN514905 1-REDBUD3S
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN514899 1-REDBUD1S
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN514940 1-REDBUD GEN
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN514900 1-REDBUD2S
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN587387 1-G16-057-GEN20.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN587383 1-G16-045-GEN10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN524023 1-NICHOLS GEN #3 22 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN587307 1-G16-045-GEN20.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN336464 1-MICHOUD UNIT #3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	GEN336801 1-BAXTER WILSON UNIT #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	96	P12:161:AEPW:DYESS 5:HYLAND 5
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	96	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	96	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04186	96	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04186	96	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03992	96	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03992	96	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03992	96	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03992	96	THISTLE7 345.00 - WOODWARD DISTRICT EHV 345KV CKT 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04323	95.9	CIMARRON - NORTHWEST 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04301	95.9	P12:138:AEPW:N.E.S.-4:CATOOSA4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04297	95.9	P12:138:WERE:MURR-MKEC_138P::
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	95.9	DOVER SW (DOVER) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04238	95.9	P12:069:OKGE:3TERM3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	GEN338143 1-INDEPENDENCE UNIT #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	GEN525494 1-PLANT X GEN #4 20 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	GEN527163 1-MUSTANG GEN #3 22 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	GEN334070 1-LEWIS CREEK 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	GEN511851 1-COMANCHE #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	GEN336152 1-WATERFORD UNIT#2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	GEN336222 1-LITTLE GYPSY UNIT#2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	GEN334071 1-LEWIS CREEK 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	GEN336151 1-WATERFORD UNIT#1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	GEN527882 1-CUNNINGHAM GEN #2 20 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.9	DOLET HILLS 345/24.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0436	95.8	7JASPER 345.00 - MORGAN 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	95.8	CLEARWATER - VIOLA 4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN527164 1-MUSTANG GEN #4 22 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN527883 1-CUNNINGHAM GEN #3 22 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN527884 1-CUNNINGHAM GEN #4 22 KV
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN527161 1-MUSTANG GEN #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN509409 1-WILKES #3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN527165 1-Mustang Gen #5
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN527162 1-MUSTANG GEN #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN303007 1-1BC2 U2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN303008 1-1BC2 U3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN501811 1-RODEMACHER UNIT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN514935 1-HORSESHOE LAKE 6G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	GEN303006 1-1BC2 U1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	WHITE BLUFF 500/26.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.8	P12:161:AEPW:DYESS5:ELMSPRNG:TONTITN5
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04229	95.8	WAUKOMIS TAP - WOODRING 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	95.8	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	95.8	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0411	95.8	STILLWATER - UNVRSTY4 138.00 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03864	95.8	CHIKASKIA - COYOTE 4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03864	95.8	COYOTE 4 138.00 - G15-015T 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.056	95.7	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04899	95.7	DOMES - PAWHUSKA TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04899	95.7	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04899	95.7	SHIDLER - WEST PAWHUSKA 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04899	95.7	P12:138:AEPW:MOUNDRD4:SHIDLER4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04465	95.7	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04343	95.7	RENO COUNTY - SUMMIT 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04312	95.7	FARBER - SUMNER COUNTY NO. 10 BELLE PLAIN 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04296	95.7	PECULIAR - STILWELL 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04284	95.7	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04284	95.7	NORTHEAST STATION - ONETA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04282	95.7	DBL-SPRVL-IR
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	95.7	DOVER SW - DOVER TAP 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	95.7	DOVER TAP - TURCRKT2 69.000 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04271	95.7	EASTOWN7 345.00 - IATAN 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0427	95.7	P12:138:AEPW:CATOOSA4:T.S.E.-4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	95.7	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04248	95.7	BUCKNER7 345.00 - HOLCOMB 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04237	95.7	P12:161:AEPW:EROGERS5:ECNTRTN5
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN501910 1-ACADIA UNIT ST1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN562587 1-G14_056_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN514883 1-SPRING CREEK UNIT 3 AND 4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN509398 1-KNOXLEE #5
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN336170 1-GULF OXY U4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN520812 1-ANADRK5
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN514882 1-SPRING CREEK UNIT 1 AND 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN515602 1-KNGFSR12 0.7000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN334031 1-FRONTIER UNIT 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN334432 1-SABINE UNIT 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN521111 1-ORME2 13.800
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN334431 1-SABINE UNIT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN521110 1-ORME1 13.800
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN587233 1-G16-037-GEN10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN334030 1-FRONTIER UNIT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN511847 1-SOUTHWESTERN STATION #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	GEN520813 1-ANADRK6
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.7	FRONTIER - GRIMES 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04227	95.7	DEWEY - SOUTHARD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.042	95.7	WEBRE - WELLS 500KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04177	95.7	3TR3AR8EL7EL
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04177	95.7	ELDORADO EHV 500/345KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04177	95.7	7SAREPTA% 345.00 - ELDORADO EHV 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0411	95.7	MCELROY - UNVRSTY4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04082	95.7	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04082	95.7	ARKANSAS NUCLEAR ONE - FT SMITH 500KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03928	95.7	Hitchland Interchange - WALKTAP7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03928	95.7	P12:345:SPS:J07.1.FINN.HITCH
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03928	95.7	Hitchland Interchange - WALKTAP7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.05042	95.6	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04899	95.6	DOMES - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04461	95.6	P12:138:OKGE:3TERM11
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04403	95.6	KNIFE 4 138.00 - TRYON 4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04403	95.6	KNIFE 4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04396	95.6	CLEVELAND - SILVER CITY 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04377	95.6	CLEO CORNER - GLASS MOUNTAIN 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04338	95.6	BRISTOW - SILVER CITY 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04313	95.6	P13:069-138:WERE:ELPA_TX-1::
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04312	95.6	EL PASO - FARBER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04274	95.6	BOWMAN - TURCRKT2 69.000 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04263	95.6	GILL ENERGY CENTER SOUTH - VIOLA 4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN587326 1-12GEN-2016-413.800
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN587323 1-9GEN-2016-4713.800
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN337766 1-TRACTEBEL UNIT S1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN511853 1-COMANCHE #3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN523462 1-BLACKHAWK GEN #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN528361 1-MADDOX GEN #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN336221 1-LITTLE GYPSY UNIT#1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN511852 1-COMANCHE #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN511850 1-SOUTHWESTERN STATION #5

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN509408 1-WILKES #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN521112 1-ORME3 13.800
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN587322 1-8GEN-2016-4713.800
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN562550 1-G14_040_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN338388 1-1PLUM PT U1 23.000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN511849 1-SOUTHWESTERN STATION #4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN523461 1-BLACKHAWK GEN #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN528362 1-MADDOX GEN #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN587324 1-10GEN-2016-413.800
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN501823 1-TECHE UNIT 3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN515443 1-MNCOWND1 0.7000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN514890 1-SMITH 1G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN520811 1-ANADRK4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	GEN587325 1-11GEN-2016-413.800
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	BORDER 7345.00 - TUCO INTERCHANGE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	RODEMACHER 230/22.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.6	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04228	95.6	8DANIEL8 500.00 - MCKNIGHT 500KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04222	95.6	P12:161:AEPW-SWPA:BEAVERS:EROGERS5
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04137	95.6	FAIRMONT TAP - WOODRING 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0411	95.6	KINZE - MCELROY 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.03937	95.6	KILDARE4 - WHITE EAGLE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04252	95.50812	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04252	95.50812	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04852	95.5	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04852	95.5	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04501	95.5	ARCADIA - COTTONWOOD CREEK 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04453	95.5	CRESWELL - MIDLTNT4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04414	95.5	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04414	95.5	CLARKSVILLE - ONETA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04381	95.5	IMO TAP - MEN TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04381	95.5	CLEOPLT4 138.00 - MEN TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04377	95.5	GLASS MOUNTAIN - MOORELAND 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04312	95.5	PAYNESB4 138.00 - SPVALLY4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04312	95.5	CUSHING - PAYNESB4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04305	95.5	FPL SWITCH - WOODWARD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04305	95.5	DOVER SW - OKEENE 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04291	95.5	PECULIAR - PLEASANT HILL 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04286	95.5	NOEL_SW 138.00 - SALT_PLAINS 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04272	95.5	P12:138:WERE:CLWA-MKEC_138F::
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04272	95.5	P12:138:MKEC:HARPER-CLEARWATER::
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04269	95.5	P13:138-161:WERE:NSES_TX-4OR5::
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04257	95.5	OKEENE (OKEENE) 138/69/13.8KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04255	95.5	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04255	95.5	CRAIG - WEST GARDNER 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04249	95.5	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04249	95.5	ELK CITY - RED HILLS WIND 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04245	95.5	ALVA - ALVA 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04238	95.5	P12:138:AEPW:MOHAWK4:T.NO--4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN334392 1-EXXON MOBIL IPP 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN337430 1-PERYVILLE UNIT #3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN336241 1-1NMIL CT2 18.000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN563062 1-G15071_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN337757 1-DUKE HOTSPRINGS STG1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN336240 1-1NMIL CT1 18.000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN562590 1-G14_057_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN515607 1-CANDN12 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN525493 1-PLANT X GEN #3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN501912 1-ACADIA UNIT CT1B
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN501911 1-ACADIA UNIT CT1A
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN337428 1-PERYVILLE UNIT #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN335612 1-WILLOW GLENN UNIT#2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN515606 1-CANDN11 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN511962 2-RKYRDGW2-1 0.7000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN501970 1-EVANGELINE UNIT 7
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN515225 1-MUSKOGEE 5G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN334394 1-EXXON MOBIL IPP 3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN511846 1-SOUTHWESTERN STATION #1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN337764 1-TRACTEBEL UNIT C1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN334393 1-EXXON MOBIL IPP 2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN337765 1-TRACTEBEL UNIT C2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN562602 1-G15_029_3 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN336242 1-1NMIL ST1 18.000
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN336446 1-MICHOUD UNIT #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN515223 1-MUSKOGEE 4G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN560105 1-G08-22 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN562270 1-G12-020-2 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN501971 1-EVANGELINE UNIT 7-1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN524022 1-NICHOLS GEN #2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	BORDER 7345.00 - WOODWARD DISTRICT EHV 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN587423 1-G16-062-GEN10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN338443 1-PANDA S1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN501972 1-EVANGELINE UNIT 7-2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN524295 1-SPNSPUR_WND10.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN515226 1-MUSKOGEE 6G
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	GEN524021 1-NICHOLS GEN #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	ST FRANCIS - ST FRANCIS 1 161KV CKT Z1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	P12:138:WFEC:MSL09
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	P12:138:WFEC:MSL13
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	P12:69:AEPW:NROGERS2:ECNTRTN2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	SABINE 230/22.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	P12:138:AEPW:YARCH-S4:T.S.E.-4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	SABINE 230/24.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	P12:138:AEPW:BA_71ST4:T.S.E.-4
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	8CAJUN2 500/24.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	NELSON 230/20.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.5	ST FRANCIS 345/161KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04227	95.5	ROMAN NOSE - SOUTHARD 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04226	95.5	JOHNSON COUNTY - PITTSBURG 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04226	95.5	JOHNSON COUNTY - PITTSBURG 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	95.5	PARAGON4 138.00 - TRNCNDACV4 138.00 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	95.5	PARAGON4 138.00 - WETUMKA4 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	95.5	PHAROAH - WETUMKA4 138KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04225	95.5	P12:138:WFEC:MSL10
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04223	95.5	ELDORADO EHV - MOUNT OLIVE 500KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0414	95.5	LACYGNE - NEOSHO 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0413	95.5	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.0413	95.5	7SAREPTA% 345.00 - LONGWOOD 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04102	95.5	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04102	95.5	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04102	95.5	TULSA NORTH (TULSA N) 345/138/34.5KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04102	95.5	T.NO.2-4 138.00 - TULSA NORTH 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04272	95.45716	CLEARWATER - MILAN TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04255	95.4	GOLTYTP2 69.000 - IMO 69KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04253	95.4	KETCH - KETCH TAP 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	95.4	P12:138:WERE:HOOV-MURR_138::
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	GEN336944 1-REX BROWN
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	GEN336167 1-GULF OXY U1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	GEN335570 1-CARVILLE CTG
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	GEN335571 1-CARVILLE UNIT #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	GEN514897 1-SMITH 1S
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	GEN336169 1-GULF OXY U3
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	GEN562269 1-G12-020-1 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	GEN336168 1-GULF OXY U2
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	GEN509407 1-WILKES #1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.4	ESSEX UNIT 2 500/18.0KV TRANSFORMER CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04226	95.4	ALTOONA - BUTLER 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04226	95.4	P13:069-138:WERE:BUTL_TX-1::
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04192	95.4	FULTON 115 - HOPE 115KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04192	95.4	FULTON 115 - HOPE 115KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04277	95.2	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04246	95.2	GEN562429 1-G13-029 0.6900
08ALL	20SP	ASGI_17_05	FROM->TO	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1	956	956	0.04236	95.1	BASE CASE
08ALL	25SP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06141	115.4143	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06195	110.2508	SOONER - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06195	110.1127	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06141	108.2725	SOONER - SPRING CREEK 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06544	105.8167	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06544	105.674	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06856	105.0462	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06156	104.6961	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.0704	102.4409	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06591	101.199	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06591	101.0089	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06084	99.8	SOONER - SPRING CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06084	99.7	NORTHWEST - SPRING CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.03818	99.6	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.03726	99.1	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06156	97.6	SOONER - SPRING CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.04063	96.9	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.06867	95.5	VIOLA 7 345.00 - WICHITA 345KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.03814	95.2	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G15063_T 345.00 - WOODRING 345KV CKT 1	956	956	0.03818	95.1	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.07176	105.7254	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0661	103.8098	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06814	102.0475	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.07176	101.4931	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06355	101.1135	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0661	99.7	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.07144	99.3	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.08036	99	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0609	98.6	GEN542955 1-LACYGNE UNIT #1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06472	98.1	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06814	98	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0609	97.6	GEN542956 2-LACYGNE UNIT #2
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0731	97.3	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.07176	97.3	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06556	97.2	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.05685	97.2	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.07411	97	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17G	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06355	97	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06315	96.9	GEN542955 1-LACYGNE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.05897	96.6	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.04993	96.6	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06402	96.4	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06472	96.3	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0653	96.2	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.07315	96.1	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06691	96.1	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.07144	96	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06846	96	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06315	95.9	GEN542956 2-LACYGNE UNIT #2
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.04834	95.8	BENTON - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.08036	95.6	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.0661	95.6	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.07248	95.3	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.07248	95.3	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06805	95.3	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.05835	95.3	GEN542955 1-LACYGNE UNIT #1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.06404	95.2	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.05897	95.1	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1	1141	1195	0.07188	95	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.07176	105.7251	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0661	103.8095	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06814	102.0474	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.07176	101.493	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06355	101.1134	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0661	99.7	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.07144	99.3	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.08036	99	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0609	98.6	GEN542955 1-LACYGNE UNIT #1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06472	98.1	CLEVELAND - G15066_T 345.00 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06814	98	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0609	97.6	GEN542956 2-LACYGNE UNIT #2
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0731	97.3	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.07176	97.3	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06556	97.2	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.05685	97.2	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.07411	97	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06355	97	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06315	96.9	GEN542955 1-LACYGNE UNIT #1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.05897	96.6	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.04993	96.6	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06402	96.4	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06472	96.3	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0653	96.2	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.07315	96.1	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06691	96.1	RENO COUNTY - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.07144	96	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06846	96	EMPORIA ENERGY CENTER - G14_001T 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06315	95.9	GEN542956 2-LACYGNE UNIT #2
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.04834	95.8	BENTON - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.08036	95.6	G14_001T 345.00 - WICHITA 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.0661	95.6	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.07248	95.3	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.07248	95.3	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06805	95.3	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	17G	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.05835	95.3	GEN542955 1-LACYGNE UNIT #1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.06404	95.2	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.05897	95.1	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1	1141	1195	0.07188	95	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	1076	0.05165	102.2132	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	1076	0.05197	101.6843	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	1076	0.04506	97.6	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	1076	0.05437	96.7	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	1076	0.054	96.7	SWISSVALE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	1076	0.04995	95.8	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	1076	0.04995	95.8	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	1076	1076	0.04322	95.1	GEN542962 2-IATAN UNIT #2
08ALL	17SP	ASGI_17_05	TO->FROM	KINZE - MCELROY 138KV CKT 1	194	222	0.03248	95.8	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	25SP	ASGI_17_05	TO->FROM	NORTHWEST - SPRING CREEK 345KV CKT 1	1039	1195	0.06068	99	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22378	98.2	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	17SP	ASGI_17_05	TO->FROM	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	152	152	0.22908	95.6	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22908	97.1	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	136	152	0.22864	95.6	4REMNGTON 138.00 - FAIRFAX 138KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SHIDLER - WEST PAWHUSKA 138KV CKT 1	181	189	0.22206	95.4	4REMNGTON 138.00 - BARNSDALL 138KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	SPVALLY4 138.00 - STILLWATER 138KV CKT 1	194	222	0.04366	97.5	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	20L	ASGI_17_05	TO->FROM	SPVALLY4 138.00 - STILLWATER 138KV CKT 1	194	222	0.04366	97.5	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05164	134.1941	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04713	131.1978	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05003	125.1352	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05003	125.1007	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05321	122.5701	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04618	121.0136	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05088	120.7795	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04841	120.6188	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05088	120.5645	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0448	119.6527	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0448	119.6346	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05003	118.041	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05413	116.8834	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04213	116.5646	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04747	116.4407	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04747	116.4114	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04901	115.1629	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04975	115.0117	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04975	115.0006	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.051	114.9169	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.051	114.8973	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05088	113.5231	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05193	113.1232	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0448	112.4601	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0447	111.76	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20L	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04884	110.5766	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04722	110.2321	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	16WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04747	109.1775	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.051	107.9425	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	20WP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04975	107.6748	WAVERLY7 345.00 - WOLF CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04146	107.5869	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.05057	106.9288	HOYT - STRANGER CREEK 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04598	106.623	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03199	104.5627	87th STREET - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	104.4659	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	103.2863	GEN542956 2-LACYGNE UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03757	103.0649	CANEYRV7 345.00 - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0314	102.9357	87th STREET - CRAIG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0389	101.7258	LACYGNE - STILWELL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03438	101.6576	CLEVELAND - G15066_T 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	100.3077	GEN542951 5-HAWTHORN UNIT #5
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03757	100.2156	CANEYRV7 345.00 - LATHAMS7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04844	100.1017	G16-012-TAP 345.00 - WAVERLY7 345.00 345KV CKT 1
08ALL	25SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04844	100.0968	G16-012-TAP 345.00 - LACYGNE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03438	100	G15066_T 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	99.8	GEN300003 1-THOMAS HILL UNIT 3
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03902	99.8	AXTELL - G16-050-TAP 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03632	99.7	LAWRENCE HILL (LAWH TX-3) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	99.6	GEN532751 1-WOLF CREEK GENERATING STATION UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03902	99	G16-050-TAP 345.00 - POST ROCK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03883	99	CLEVELAND - TULSA NORTH 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03883	99	CLEVELAND - TULSA NORTH 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03654	99	SWISSVALE - TECUMSEH HILL 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03654	98.9	TECUMSEH HILL (TECH TX-3) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03679	98.8	IATAN - NASHUA 345KV CKT 1
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.04237	98.7	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03592	98.7	AUBURN ROAD (AUBN TX-1) 230/115/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03425	98.7	SUMMIT - UNIONRG6 230.00 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03364	98.7	HUNTERS7 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03328	98.5	BENTON - WICHITA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03808	98.3	EMPORIA ENERGY CENTER - MORRIS COUNTY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03618	98.3	LAWRENCE HILL - MIDLAND JUNCTION 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	98.3	GEN542962 2-IATAN UNIT #2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03618	98.2	MIDLAND JUNCTION (MIDJ TX-1) 230/115/18.0KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	98.2	GEN344225 1-1CAL G1 25.000
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	98	GEN541151 3-SIBLEY GENERATING UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03637	97.8	MIDLAND JUNCTION - PENTAGON 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03527	97.8	P12:138:WERE:ELPA-SUMN_138::
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03629	97.7	G15063_T 345.00 - MATHWSN7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	97.7	GEN542957 1-IATAN UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03757	97.5	LATHAMS7 345.00 - ROSE HILL 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03639	97.5	EUDORA TOWNSHIP - FARMERS CONSUMER CO-OP 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0365	97.3	HAWTHORN - NASHUA 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	97.3	GEN300007 1-NEW MADRID UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	97.3	GEN300006 1-NEW MADRID UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03642	97.2	MIDLAND JUNCTION - TONGA TAP 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0357	97.2	LANG (LANG TX-1) 345/115/14.4KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0357	97.2	EMPORIA ENERGY CENTER - LANG 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0357	97.2	P13:115-345:WERE:LANG_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03741	97.1	P12:161:WERE:TECH-KELL-OPPD_161::
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03741	97.1	P12:161:WERE:OPPD:S1399-KELLY
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03639	97.1	CAPTAIN JUNCTION - EUDORA TOWNSHIP 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03639	97.1	87TH STREET - 95WAJ 3 115.00 115KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03639	97.1	95WAJ 3 115.00 - CAPTAIN JUNCTION 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03575	97.1	DBL-THIS-G15
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03914	97	LAWRENCE HILL - SWISSVALE 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03616	97	MUND - PENTAGON 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	97	GEN562694 1-G15_016_3 0.6900
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	97	GEN546702 1-NM GEN N1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03797	96.9	GRDA1 - GREC TAP5 345.00 345KV CKT 1
08ALL	17G	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03677	96.9	LACYGNE - WEST GARDNER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03639	96.9	P12:115:WERE:87TH-FAIG_115::
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0359	96.9	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0359	96.9	CONCORDIA - ELM CREEK 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0359	96.9	CONCORDIA - ELM CREEK 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0359	96.9	CONCORDIA (CONCORD6) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.9	GEN645012 2-NEBRASKA CITY 2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03403	96.9	RANCHRD7 345.00 - SOONER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03732	96.8	S1398 5 161.00 - S1399 5 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03732	96.8	P12:161:OPPD:HUMBOLT-S1398-S1399
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03629	96.8	G15063_T 345.00 - WOODRING 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.8	GEN640009 1-COOPER NUCLEAR STATION
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.8	GEN645011 1-NEBRASKA CITY 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03732	96.7	HUMBOLDT - S1398 5 161.00 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0365	96.7	TECUMSEH HILL (TECH TX-1) 161/115/12.47KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0365	96.7	KELLY - TECUMSEH HILL 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.7	GEN300002 1-THOMAS HILL UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.7	GEN541162 1-ARIES STEAM TURBINE
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03952	96.6	IATAN - STRANGER CREEK 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03777	96.6	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03777	96.6	DELAWARE - NORTHEAST STATION 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03717	96.6	CENTERVILLE - G15-016T 161.00 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03633	96.6	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03616	96.6	EDWARDSVILLE - MUND 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.6	GEN542954 3-MONTROSE UNIT #3
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03619	96.5	GRAND ISLAND - SWEETWATER 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.5	GEN590011 2-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.5	GEN542953 2-MONTROSE UNIT #2

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03732	96.4	KELLY - S1399 5 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03619	96.4	LAWRENCE ENERGY CENTER UNIT 4 - MIDLNDJ3 115.00 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03619	96.4	JARBALO JUNCTION SWITCHING STATION - MIDLNDJ3 115.00 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03619	96.4	P12:115:WERE:JARB-LEC_115::
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03616	96.4	EDWARDSVILLE - METRO 5 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.4	GEN509394 1-FLINT CREEK
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.4	EASTDC - ERCOT EQUIVALENCE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.4	GEN590010 1-ERCOT EQUIVALENCE
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03642	96.3	JARBALO JUNCTION SWITCHING STATION - TONGA TAP 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03634	96.3	AXTELL - PAULINE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0363	96.3	G15088_T 345.00 - MOORE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03616	96.3	EDWARDSVILLE (EDWV TX-4) 161/115/12.47KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03616	96.3	P13:115-161:WERE:EDWV_TX-4::
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03585	96.3	IATAN - WESTON 5 161.00 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03585	96.3	PLATTE CITY - WESTON 5 161.00 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.3	GEN344897 4-1LAB G4 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.3	GEN344895 2-1LAB G2 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.3	GEN344896 3-1LAB G3 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.3	GEN344894 1-1LAB G1 20.000
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03495	96.3	OVEXFRMCCOVE
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0374	96.2	MINGO - RED WILLOW 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0374	96.2	MINGO - RED WILLOW 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.2	GEN543109 4-BULL CREEK COMBUSTION TURBINE #4
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.2	GEN543108 3-BULL CREEK COMBUSTION TURBINE #3
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.2	GEN541165 1-SHARPR#1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.2	GEN543107 2-BULL CREEK COMBUSTION TURBINE #2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.2	GEN541166 2-SHARPR#2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03717	96.1	CENTERVILLE - PAOLA 161KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.1	GEN512688 2-GRDA1 GSU2 22
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.1	GEN549893 2-SOUTHWEST 2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.1	GEN345670 1-1RUSH G1 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.1	GEN345671 2-1RUSH G2 18.000

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.1	GEN547649 1-ASBURY UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96.1	GEN543106 1-BULL CREEK COMBUSTION TURBINE #1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03555	96.1	NASHUA (NASH 11) 345/161/13.8KV TRANSFORMER CKT 11
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03437	96.1	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03889	96	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03889	96	DELAWARE - NEOSHO 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03637	96	7MCCREDIE 345.00 - 7MONTGMRY 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0363	96	G15088_T 345.00 - PAULINE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03609	96	G14-057T 345.00 - SUNNYSIDE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03564	96	MCDOWELL CREEK - MORRIS COUNTY 230KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03564	96	MCDOWELL CREEK (MCDO TX-1) 230/115/13.8KV TRANSFORMER CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03564	96	P13:115-230:WERE:MCDO_TX-1::
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96	GEN546698 1-QN GEN2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96	GEN300001 1-THOMAS HILL UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96	GEN542967 9-HAWTHORN UNIT #9
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96	GEN300011 1-ST FRANCIS UNIT 2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96	GEN541163 1-ARIES COMBUSTION TURBINE #1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	96	GEN505432 1-SIKESTON
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03382	96	7MCCREDIE 345.00 - 7OVERTON 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03364	96	G16-072-TAP 345.00 - RENFROW7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03364	96	G16-072-TAP 345.00 - HUNTERS7 345.00 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03582	95.96442	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03582	95.96442	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03717	95.9	P12:161:WERE:MARM-KCPL_161::
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03669	95.9	7JASPER 345.00 - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03642	95.9	P12:115:WERE:JARB-MIDJ_115::
08ALL	20SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0363	95.9	GEN542955 1-LACYGNE UNIT #1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03616	95.9	P12:115:WERE:EDWV-PENT_115::
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03604	95.9	CLIFTON - CONCORDIA 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03604	95.9	CLIFTON - CONCORDIA 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03602	95.9	EASTOWN7 345.00 - IATAN 345KV CKT 1

Table 13: Thermal Constraints Not Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Contingency
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03563	95.9	166TH STREET - JARBALO JUNCTION SWITCHING STATION 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	95.9	GEN659107 2-ANTELOPE VALLEY UNIT2
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	95.9	GEN509403 1-PIRKEY GENERATION
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	95.9	GEN542961 6-HAWTHORN COMBUSTION TURBINE #6
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	95.9	GEN543078 1-PAOLA COMBUSTION TURBINES
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	95.9	GEN300015 1-1SGPDEL 18.000
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	95.9	GEN300010 1-ST FRANCIS UNIT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	95.9	GEN659103 1-ANTELOPE VALLEY UNIT1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0354	95.9	G15-005T 345.00 - SIBLEY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03625	95.8	7SPORTSMAN - BLACKBERRY 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03589	95.8	CIMARRON - DRAPER LAKE 345KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.03563	95.8	166TH STREET - JAGGARD JUNCTION 115KV CKT 1
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	95.8	GEN511840 1-NORTHEASTERN STATION #3
08ALL	17SP	ASGI_17_05	FROM->TO	SWISSVALE - WEST GARDNER 345KV CKT 1	717	717	0.0356	95.8	GEN513601 1-GRECCTG_1 20.000

Table 14: Voltage Constraints Requiring Additional Transmission Reinforcements

Dispatch Group	Season	Source	Flow	Monitored Element	RATEA (MVA)	RATEB (MVA)	TDF	TC% LOADING	Max MW Available	Contingency
				Currently, None						