



# Aggregate Facility Study SPP-2013-AG3-AFS-3

8/21/2014

SPP Engineering, SPP Transmission Service Studies



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## Executive Summary

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Pursuant to Attachment Z1 of the Southwest Power Pool, Inc. (SPP) Open Access Transmission Tariff (OATT), 2,309 MW of long-term transmission service requests have been studied in this Aggregate Facility Study (AFS). The principal objective of the AFS is to identify system problems and potential modifications necessary to facilitate these transfers while maintaining or improving system reliability, as well as summarizing the operating limits and determination of the financial characteristics associated with facility upgrades. A highly tangible benefit of studying transmission requests aggregately under the SPP OATT Attachment Z1 is the sharing of costs among Transmission Customers using the same facility. Facility upgrade costs are allocated on a prorated basis to all requests positively impacting any individual overloaded facility.

Attachment Z2 further provides for facility upgrade cost recovery by stating: “Transmission Customers paying Directly Assigned Upgrade Costs for Service Upgrades or that are in excess of the Safe Harbor Cost Limit for Network Upgrades associated with new or changed Designated Resources and Project Sponsors paying Directly Assigned Upgrade Costs for Sponsored Upgrades shall receive revenue credits in accordance with Attachment Z2. Generation Interconnection Customers paying for Network Upgrades shall receive credits for new transmission service using the facility as specified in Attachment Z1.”

- The AFS determined that the total assigned facility upgrade Engineering and Construction (E&C) cost is \$5 million. Additionally, E&C cost for third party facility upgrades are indeterminate.
- Total upgrade levelized revenue requirements for all transmission requests after consideration of potential base plan funding is \$7.3 million.

To accommodate the requested SPP Transmission Service, third-party facilities must be upgraded when the third-party transmission provider determines that they are constrained. Third-party facilities include both first-tier neighboring facilities outside SPP and Transmission Owner facilities within SPP that are not under the SPP OATT. In this AFS, third-party facilities were identified. Total E&C cost estimates for required third-party facility upgrades are applicable.

SPP will tender a Letter of Intent on August 21, 2014. This will open a 15-day window for Customer response. To remain in the Aggregate Transmission Service Study (ATSS), SPP must receive from the Customer by September 5, 2014, an executed Letter of Intent. The Letter of Intent will list options the Customer must choose to clarify their commitment to remain in the ATSS. The only action required on OASIS is to withdraw the request or leave the request in study mode.

If Customers withdraw from the ATSS after posting of this AFS, the AFS will be re-performed to determine final cost allocation and Available Transmission Capability (ATC) in consideration of the remaining ATSS participants. All allocated revenue requirements for facility upgrades are assigned to the Customer in the AFS data tables. Potential base plan funding allowable is contingent upon validation of designated resources meeting Attachment J, Section III B criteria.

## Introduction

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Important milestones and dates in SPP's Aggregate Transmission Study process:

- In 2005, the Federal Energy Regulatory Commission (FERC) accepted SPP's proposed Aggregate Transmission Study procedures in Docket ER05-109.
- All requests for long-term transmission service with a signed study agreement received before October 1, 2013 for 2013-AG3 have been included in this third Aggregate Transmission Service Study (ATSS) of 2013.

. The results of the AFS are detailed in Tables 1 through 7. Detailed results depict individual upgrade costs by study and potential base plan allowances determined by Attachments J and Z1. The [OATT](#) may be accessed at SPP's website by going to [SPP.org>Org Groups>Governing Documents](#).

To understand the extent to which Base Plan Upgrades may be applied to both Point-to-Point (PTP) and Network Transmission Services, it is necessary to highlight the definition of Designated Resource. Per Section 1.9a of the SPP OATT, a Designated Resource is:

“[a]ny designated generation resource owned, purchased or leased by a Transmission Customer to serve load in the SPP Region. Designated Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Transmission Customer's load on a non-interruptible basis.”

Network and PTP service has potential for base plan funding if the conditions for classifying upgrades associated with designated resources as Base Plan Upgrades as defined in Section III.B of Attachment J are met.

Pursuant to Attachment J, Section III B of the SPP OATT, the Transmission Customer must provide SPP information necessary to verify that the new or changed Designated Resource meets the following conditions:

1. Transmission Customer's commitment to the requested new or changed Designated Resource must have a duration of at least five years.
2. During the first year the Designated Resource is planned to be used by the Transmission Customer, the accredited capacity of the Transmission Customer's existing Designated Resources plus the lesser of:
  - a. The planned maximum net dependable capacity applicable to the Transmission Customer or
  - b. The requested capacity; shall not exceed 125% of the Transmission Customer's projected system peak responsibility determined pursuant to SPP Criteria 2.

According to Attachment Z1 Section VI.A, PTP customers pay the higher of the monthly transmission access charge (base rate) or the monthly revenue requirement associated with the assigned facility upgrades, including any prepayments for redispatch required during construction.

Network Integration Service Customers pay the total monthly transmission access charges and the monthly revenue requirement associated with the facility upgrades, including any prepayments for redispatch during construction.

Transmission Customers paying for a directly assigned Network Upgrade shall receive credits for new transmission service using the facility as specified in Attachment Z2.

Facilities identified as limiting the requested Transmission Service have been reviewed to determine the required in-service date of each Network Upgrade. The year that each Network Upgrade is required to accommodate a request is determined by interpolating between the applicable model years given the respective loading data. Both previously assigned facilities and the facilities assigned to this request for Transmission Service were evaluated.

In some instances, due to lead times for engineering and construction, Network Upgrades may not be available when required to accommodate a request for Transmission Service. When this occurs, the ATC with available Network Upgrades will be less than the capacity requested during either a portion of or all of the requested reservation period. As a result, the lowest seasonal allocated ATC within the requested reservation period will be offered to the Transmission Customer on an applicable annual basis as listed in Table 1. The ATC may be limited by transmission owner planned projects, expansion plan projects, or Customer assigned upgrades.

Some constraints identified in the AFS were not assigned to the Customer because SPP, the Transmission Provider, determined that upgrades are not required due to various reasons or the Transmission Owner has construction plans pending for these upgrades. These facilities are listed by reservation in Table 3. This table also includes constrained facilities in the current planning horizon that limit the rollover rights of the Transmission Customer. Table 6 lists possible redispatch pairs to allow start of service prior to completion of assigned Network Upgrades. Table 7 lists costs allocated per request for Service Upgrades assigned in this AFS.

By taking the transmission service subject to interim redispatch, the Transmission Customer agrees to provide interim redispatch. Once the Transmission Provider identifies the possible redispatch pairs, the Transmission Customer can enter into bilateral agreements to provide redispatch. Should the need to implement redispatch arise in order to maintain Network reliability, it is up to the Transmission Customer to contact parties with whom they have entered into redispatch agreements to implement that service. Such redispatch shall occur in advance of curtailment of other firm reservations impacting these constraints. In the absence of implementation of interim redispatch as requested by the Transmission Provider for Transmission Customer transactions resulting in overloads on limiting facilities, the Transmission Provider shall curtail the Transmission Customers schedule.

## Financial Analysis

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The AFS utilizes the allocated Customer's E&C cost in a present worth analysis to determine the monthly levelized revenue requirement of each facility upgrade over the term of the reservation. In some cases, Network Upgrades cannot be completed within the requested reservation period, thus deferred reservation periods will be utilized in the present worth analysis. If the Customer chose Option 2, Redispatch, in the Letter of Intent, the present worth analysis of revenue requirements will be based on the deferred term with redispatch in the subsequent AFS. The upgrade levelized revenue requirement includes interest, depreciation, and carrying costs.

Each request for Transmission Service is evaluated independently as the cost associated with each Network Upgrade is assigned to a request. When facilities are upgraded throughout the reservation period, the Transmission Customer shall 1) pay the total E&C costs and other annual operating costs associated with the new facilities, and 2) receive credits associated with the depreciated book value of removed usable facilities; salvage value of removed non-usable facilities; and the carrying charges, excluding depreciation, associated with all removed usable facilities based on their respective book values.

In the event that the engineering and construction of a previously assigned Network Upgrade may be accelerated, with no additional upgrades, to accommodate a new request for Transmission Service, the levelized present worth of only the incremental expenses though the reservation period of the new request, excluding depreciation, shall be assigned to the new request. These incremental expenses, excluding depreciation, include:

1. The levelized difference in present worth of the engineering and construction expenses given the change in date to complete construction to account for additional interest expense and reduced engineering and construction expense due to inflation,
2. The levelized present worth of all expediting fees, and
3. The levelized present worth of the incremental annual carrying charges, excluding depreciation and interest, during the new reservation period taking into account both:
  - a. The reservation in which the project was originally assigned, and
  - b. A reservation, if any, in which the project was previously accelerated.

In the case of a Base Plan Upgrade being displaced or deferred by an earlier in service date for a requested upgrade, achievable base plan avoided revenue requirements shall be determined per Attachment J, Section VII.B methodology. A deferred Base Plan Upgrade is defined as a different requested Network Upgrade needed at an earlier date that negates the need for the initial Base Plan Upgrade within the planning horizon. A displaced Base Plan Upgrade is defined as the same Network Upgrade being displaced by a requested upgrade needed at an earlier date.

A 40-year service life assumption is utilized for Base Plan funded projects, unless another assumption is provided by the Transmission Owner. A present worth analysis of revenue requirements on a common year basis between the Base Plan and Requested Upgrades was

performed to determine avoided Base Plan revenue requirements due to the displacement or deferral of the Base Plan Upgrade by the Requested Upgrade. The difference in present worth between the Base Plan and Requested Upgrades is assigned to the transmission requests impacting this upgrade based on the displacement or deferral.

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## Third-Party Facilities

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For third-party facilities listed in Table 3 and Table 5, the Transmission Customer is responsible for funding the necessary upgrades of these facilities per Section 21.1 of the Transmission Provider's OATT. In this AFS, third-party facilities were identified. Total E&C cost estimates for required third-party facility upgrades are applicable. The Transmission Provider will undertake reasonable efforts to assist the Transmission Customer in making arrangements for necessary engineering, permitting, and construction of the third-party facilities. Third-party facility upgrade E&C cost estimates are not utilized to determine the present worth value of levelized revenue requirements for SPP system Network Upgrades.

All modeled facilities within the Transmission Provider system were monitored during the development of this study, as well as certain facilities in first-tier neighboring systems. Third-party facilities must be upgraded when it is determined that they are overloaded while accommodating the requested Transmission Service. An agreement between the Customer and third party owner detailing the mitigation of the third party impact must be provided to the Transmission Provider prior to tendering of a Transmission Service Agreement. These facilities also include those owned by members of the Transmission Provider who have not placed their facilities under the Transmission Provider's OATT. Upgrades on the Southwest Power Administration network requires prepayment of the upgrade cost prior to construction of the upgrade.

Third-party facilities are evaluated for only those requests whose load sinks within the SPP footprint. The Customer must arrange for study of third party facilities for load that sinks outside the SPP footprint with the applicable Transmission Providers.

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## Study Methodology

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### Description

The facility study analysis was conducted to determine the steady-state impact of the requested service on the SPP and first tier non-SPP control area systems. The steady-state analysis was performed consistent with current SPP Criteria and NERC Reliability Standard Requirements. SPP conforms to NERC Reliability Standards, which provide strict requirements related to voltage violations and thermal overloads during normal conditions and during a contingency. NERC Standards require all facilities to be within normal operating ratings for normal system conditions and within emergency ratings after a contingency.

Normal operating ratings and emergency operating ratings monitored are Rate A and B in the SPP Model Development Working Group (MDWG) models, respectively. The upper bound and lower bound of the normal voltage range monitored is 105% and 95%. The upper bound and lower bound of the emergency voltage range monitored is 105% and 90%. Transmission Owner voltage monitoring criteria is used if more restrictive. The SPS Tuco 230 kV bus voltage is monitored at 92.5% due to pre-determined system stability limitations. The WERE Wolf Creek 345 kV bus voltage is monitored at 103.5% and 98.5% due to transmission operating procedure.

The contingency set includes all SPP control area branches and ties 69 kV 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 control areas with SPP reserve share program redispatch. The monitor 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 115 kV and above. Voltage monitoring was performed for SPP control area buses 69 kV and above.

A 3 % transfer distribution factor (TDF) cutoff was applied to all SPP control area facilities. For first tier non-SPP control area facilities, a 3 % TDF cutoff was applied to AECI, AMRN (Ameren), and ENTR (Entergy) control areas. A 2 % TDF cutoff was applied to WAPA. For voltage monitoring, a 0.02 per unit change in voltage must occur due to the transfer or modeling upgrades to be considered a valid limit to the transfer.

## **Model Development**

SPP used eight seasonal models to study the aggregate transfers over a variety of requested service periods. The following SPP Transmission Expansion Plan 2014 Build Cases were used to study the impact of the requested service on the transmission system:

- 2015 Summer Peak (15SP)
- 2015/16 Winter Peak (15WP)
- 2016 Summer Peak (16SP)
- 2016/17 Winter Peak (16WP)
- 2020 Summer Peak (20SP)
- 2020/21 Winter Peak (20WP)
- 2025 Summer Peak (25SP)
- 2025/26 Winter Peak (25WP)

The Summer Peak models apply to June through September and the Winter Peak models apply to December through March.

The chosen base case models were modified to reflect the current modeling information. One group of requests was developed from the aggregate to model the requested service. From the seasonal models, two system scenarios were developed. Scenario 0 includes projected usage of transmission included in the SPP 2014 Series Cases. Scenario 5 includes transmission service not already included in the SPP 2014 Series Cases.



## **Transmission Request Modeling**

Network Integration Transmission Service requests are modeled as Generation to Load transfers in addition to Generation to Generation transfers. Network Integration Transmission Service requests are modeled as Generation to Load transfers in addition to Generation to Generation because the requested Network Integration Transmission Service is a request to serve network load with the new designated network resource, and the impacts on Transmission System are determined accordingly. Point-To-Point Transmission Service requests are modeled as Generation to Generation transfers. Generation to Generation transfers are accomplished by developing a post-transfer case for comparison by dispatching the request source and redispatching the request sink.

## **Transfer Analysis**

Using the selected cases both with and without the requested transfers modeled, the PSS/E Activity ACCC was run on the cases and compared to determine the facility overloads caused or impacted by the transfer. Transfer distribution factor cutoffs (SPP and 1<sup>st</sup>-Tier) and voltage threshold (0.02 change) were applied to determine the impacted facilities. The PSS/E options chosen to conduct the analysis can be found in Appendix A.

## **Curtailement and Redispatch Evaluation**

During any period in which SPP determines that a transmission constraint exists on and may impair Transmission System reliability, SPP will take whatever actions are reasonably necessary to maintain reliability. If SPP determines Transmission System reliability can be maintained by redispatching resources, it will evaluate the interim curtailment of existing confirmed service or interim redispatch of units to provide service prior to completion of any assigned Network Upgrades. Any redispatch may not unduly discriminate between the Transmission Owners' use of the Transmission System on behalf of their Native Load Customers and any Transmission Customer's use of the Transmission System to serve its designated load. Redispatch was evaluated to provide only interim service during the time frame prior to completion of any assigned Network Upgrades. Curtailment of existing confirmed service is evaluated to provide only interim service. Curtailment of existing confirmed service is only evaluated at the request of the transmission Customer.

SPP determined potential relief pairs to relieve the incremental MW impact on limiting facilities as identified in Table 6. Using the selected cases where the limiting facilities were identified, potential incremental and decremental units were identified by determining the generation amount available for increasing and decreasing from the units generation amount, maximum generation amount, and minimum generation amount. If the incremental or decremental amount was greater than 1 MW, the unit was considered as a potential incremental or decremental unit.

Generation shift factors were calculated for the potential incremental and decremental units using Managing and Utilizing System Transmission (MUST). Relief pairs from the generation shift factors for the incremental and decremental units with a greater than 3% TDF on the limiting constraint were determined from the incremental units with the lowest generation shift factors and decremental units with highest generation shift factors. If the aggregate redispatch amount for the potential relief pair was determined to be three times greater than the lower of the increment or decrement, then the pair was determined not to be feasible and is not included. Transmission Customers can request SPP

to provide additional relief pairs beyond those determined. The potential relief pairs were not evaluated to determine impacts on limiting facilities in the SPP and first tier systems. The SPP Reliability Coordinator would call upon the redispatch requirements before implementing NERC TLR Level 5a.

The Aggregate Study analyzes the most probable contingencies and does not account for every situation that may be encountered in real-time operation. Because of this, it is possible that the customer may be curtailed under certain system conditions to allow system operators to maintain the reliability of the transmission network.

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## Study Results

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### **Study Analysis Results**

Tables 1 through 7 contain the AFS steady-state analysis results. Table 1 identifies the participating long-term Transmission Service requests included in the AFS. This table lists deferred start and stop dates both with and without redispatch (based on Customer selection of redispatch if available) and the minimum annual allocated ATC without upgrades and season of first impact.

Table 2 identifies total E&C cost allocated to each Transmission Customer, letter of credit requirements, third party E&C cost assignments, potential base plan E&C funding (lower of allocated E&C or Attachment J Section III B criteria), point-to-point base rate charge, total revenue requirements for assigned upgrades with consideration of potential base plan funding, and final total cost allocation to the Transmission Customer. In addition, Table 2 identifies SWPA upgrade costs which require prepayment in addition to other allocated costs.

Table 3 provides additional details for each request including all assigned facility upgrades required, allocated E&C costs, allocated revenue requirements for upgrades, upgrades not assigned to the Customer but required for service to be confirmed, credits to be paid for previously assigned AFS or Generation Interconnection Network Upgrades, and any required third party upgrades.

Table 4 lists all upgrade requirements with associated solutions needed to provide Transmission Service for the AFS, minimum ATC per upgrade with season of impact, earliest date upgrade is required (DUN), estimated date the upgrade will be completed, in service (EOC), and estimated E&C cost.

Table 5 lists identified third-party constrained facilities.

Table 6 identifies potential redispatch pairs available to relieve the aggregate impacts on identified constraints to prevent deferral of start of service. MW amounts listed for redispatch are maximum values observed in a long term study and may only be available in a reduced amount or unavailable at any given time.

Table 7 lists costs allocated per request for Service Upgrades assigned in this AFS.

The potential base plan funding allowable is contingent on meeting each of the conditions for classifying upgrades associated with designated resources as Base Plan Upgrades as defined in Section III.B of Attachment J. If the additional capacity of the new or changed Designated Resource exceeds the 125% resource to load forecast for the year of start of service, the requested resource is not eligible for base plan funding of required Network Upgrades and the full cost of the upgrades is assignable to the Customer.

If the request is for wind generation, the total requested capacity of wind generation plus existing wind generation capacity shall not exceed 20% of the customer's projected system peak responsibility in the first year the Designated Resource is planned to be used by the customer. If the five-year term and 125% resource to load criteria are met, (as well as the 20% wind resource to load criteria for wind generation requests) the requested capacity is multiplied by \$180,000 to determine the potential base plan funding allowable. The maximum potential base plan funding allowable may be less than the potential base plan funding allowable, due to the E&C cost allocated to the customer being lower than the potential amount allowable to the Customer. The Customer is responsible for any assigned upgrade costs in excess of potential base plan E&C funding allowable. Network Upgrades required for wind generation requests located in a zone other than the Customer POD shall be allocated as 67% base plan region-wide charge and 33% directly assigned to the Customer.

Regarding application of base plan funding for PTP requests, if PTP base rate exceeds upgrade revenue requirements without taking into effect the reduction of revenue requirements by potential base plan funding, then the base rate revenue pays back the Transmission Owner for upgrades and no base plan funding is applicable as the access charge must be paid as it is the higher of "OR" pricing.

However, if initially the upgrade revenue requirements exceed the PTP base rate, then potential base plan funding would be applicable. The test of the higher of "OR" pricing would then be made against the remaining assignable revenue requirements versus PTP base rate. Examples are as follows:

**Example A:**

E&C allocated for upgrades is \$74 million with revenue requirements of \$140 million and PTP base rate of \$101 million. Potential base plan funding is \$47 million, with the difference of \$27 million E&C assignable to the Customer. If the revenue requirements for the assignable portion is \$54 million and the PTP base rate is \$101 million, the Customer will pay the higher amount (so-called "or pricing") of \$101 million base rate of which \$54 million revenue requirements will be paid back to the Transmission Owners for the upgrades, and the remaining revenue requirements of \$86 million (\$140 million less \$54 million) will be paid by base plan funding.

**Example B:**

E&C allocated for upgrades is \$74 million with revenue requirements of \$140 million and PTP base rate of \$101 million. Potential base plan funding is \$10 million with the difference of \$64 million E&C assignable to the Customer. If the revenue requirements for this assignable portion is \$128 million and the PTP base rate is \$101 million, the Customer will pay the higher amount of \$128 million revenue requirements to be paid back to the Transmission Owners, and the remaining

revenue requirements of \$12 million (\$140 million less \$128 million) will be paid by base plan funding.

### **Example C:**

E&C allocated for upgrades is \$25 million with revenue requirements of \$50 million and PTP base rate of \$101 million. Potential base plan funding is \$10 million. Base plan funding is not applicable as the higher amount of PTP base rate of \$101 million must be paid and the \$50 million revenue requirements will be paid from this.

The 125% resource to load determination is performed on a per request basis and is not based on a total of Designated Resource requests per Customer. A footnote will provide the maximum resource designation allowable for base plan funding consideration per Customer basis per year.

Base plan funding verification requires that each Transmission Customer with potential for base plan funding provide SPP attestation statements verifying that the firm capacity of the requested Designated Resource is committed for a minimum five year duration.

### **Study Definitions**

- The date upgrade needed date (DUN) is the earliest date the upgrade is required to alleviate a constraint considering all requests.
- End of construction (EOC) is the estimated date the upgrade will be completed and in service.
- Total engineering and construction cost (E&C) is the upgrade solution cost as determined by the Transmission Owner.
- The Transmission Customer's allocation of the E&C cost is based on the request (1) having an impact of at least 3% on the limiting element, and (2) having a positive impact on the upgraded facility.
- Minimum ATC is the portion of the requested capacity that can be accommodated without upgrading facilities.
- Annual ATC allocated to the Transmission Customer is determined by the least amount of allocated seasonal ATC within each year of a reservation period.

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## **Conclusion**

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The results of the AFS show that limiting constraints exist in many areas of the regional Transmission System. Due to these constraints, Transmission Service cannot be granted unless noted in Table 3.

The Transmission Provider will tender a Letter of Intent on August 21, 2014. This will open a 15-day window for Customer response. To remain in the Aggregate Transmission Service Study (ATSS), the Transmission Provider must receive from the Transmission Customer by September 5, 2014, an executed Letter of Intent. The Letter of Intent will list options the Customer must choose to clarify their commitment to remain in the ATSS. The only action required on OASIS is to WITHDRAW the request or leave the request in STUDY mode.

The Transmission Provider must receive an unconditional and irrevocable letter of credit in the amount of the total allocated E&C costs assigned to the Customer. This letter of credit is not required for those facilities that are fully base plan funded. The amount of the letter of credit will be adjusted down on an annual basis to reflect cost recovery based on revenue allocation. The Transmission Provider will issue notifications to construct Network Upgrades to the constructing Transmission Owner after filing of necessary service agreements at FERC.

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## Appendix A

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### PSS/E CHOICES IN RUNNING LOAD FLOW PROGRAM AND ACCC

#### BASE CASE SETTINGS:

- Solutions: Fixed slope decoupled Newton-Raphson solution (FDNS)
- Tap adjustment: Stepping
- Area Interchange Control: Tie lines and loads
- Var limits: Apply immediately
- Solution Options:
  - Phase shift adjustment
  - Flat start
  - Lock DC taps
  - Lock switched shunts

#### ACCC CASE SETTINGS:

- Solutions: AC contingency checking (ACCC)
- MW mismatch tolerance: 0.5
- System intact rating: Rate A
- Contingency case rating: Rate B
- Percent of rating: 100
- Output code: Summary
- Min flow change in overload report: 3mw
- Excl'd cases w/ no overloads from report: YES
- Exclude interfaces from report: NO
- Perform voltage limit check: YES
- Elements in available capacity table: 60000
- Cutoff threshold for available capacity table: 99999.0
- Min. contng. Case Vltg chng for report: 0.02
- Sorted output: None
- Newton Solution:
- Tap adjustment: Stepping
- Area interchange control: Tie lines and loads (Disabled for generator outages)
- Var limits: Apply immediately
- Solution options:
  - Phase shift adjustment
  - Flat start
  - Lock DC taps
  - Lock switched shunts

**Table 1 - Long-Term Transmission Service Requests Included in Aggregate Facility Study**

Customer	Study Number	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date without interim redispach	Deferred Stop Date without interim redispach	Start Date with interim redispach	Stop Date with interim redispach	Minimum Allocated ATC (MW) within reservation period	Season of Minimum Allocated ATC within reservation period
AECC	2013-AG3-001	78754116	OKGE	CSWS	150	7/1/2014	7/1/2019	6/1/2018	6/1/2023	1/1/2015	1/1/2020	0	15SP
AECC	2013-AG3-002	78754144	OKGE	OKGE	150	7/1/2014	7/1/2019	6/1/2018	6/1/2023	1/1/2015	1/1/2020	0	15SP
AEPM	2013-AG3-003	78775996	OKGE	CSWS	200	1/1/2016	1/1/2036	3/1/2021	3/1/2041	1/1/2016	1/1/2036	0	16SP
AEPM	2013-AG3-004	78776033	SPS	CSWS	200	1/1/2016	1/1/2036	3/1/2021	3/1/2041	1/1/2016	1/1/2036	0	16SP
AEPM	2013-AG3-005	78776041	OKGE	CSWS	199	1/1/2016	1/1/2036	3/1/2021	3/1/2041	1/1/2016	1/1/2036	0	16SP
ETEC	2013-AG3-006	78774012	CSWS	CSWS	31	1/1/2015	1/1/2024	6/1/2016	6/1/2025	6/1/2016	6/1/2025	0	15SP
GRDX	2013-AG3-007	78753946	CSWS	GRDA	136	10/1/2015	10/1/2020	6/1/2018	6/1/2023	10/1/2015	10/1/2020	0	16SP
GRDX	2013-AG3-008	78773345	MPS	GRDA	240	4/1/2016	4/1/2021	6/1/2018	6/1/2023	4/1/2016	4/1/2021	0	16SP
GRDX	2013-AG3-009	78773355	MPS	GRDA	100	4/1/2016	4/1/2021	6/1/2018	6/1/2023	4/1/2016	4/1/2021	0	16SP
KCPS	2013-AG3-016	78758401	WR	KCPL	50	7/1/2015	1/1/2036	6/1/2017	12/1/2037	7/1/2015	1/1/2036	0	16SP
KCPS	2013-AG3-017	78764630	WR	KCPL	101	7/1/2015	1/1/2036	6/1/2017	12/1/2037	7/1/2015	1/1/2036	0	16SP
KCPS	2013-AG3-018	78764633	WR	KCPL	51	7/1/2015	1/1/2036	6/1/2017	12/1/2037	7/1/2015	1/1/2036	0	16SP
LESM	2013-AG3-021	78773742	OKGE	LES	100	11/26/2015	11/26/2020	1/1/2018	1/1/2023	11/26/2015	11/26/2020	0	16SP
OGE	2013-AG3-024	78759765	OKGE	OKGE	16	10/1/2014	6/1/2030	1/1/2015	9/1/2030	1/1/2015	9/1/2030	0	15SP
OMPA	2013-AG3-025	78697838	OKGE	OKGE	4	10/1/2014	12/1/2040	3/1/2021	5/1/2047	1/1/2015	3/1/2041	0	15SP
SECI	2013-AG3-026	78763050	KCPL	SECI	50	1/1/2015	1/1/2045	6/1/2018	6/1/2048	1/1/2015	1/1/2045	0	15SP
SPSM	2013-AG3-027	78751808	SPS	SPS	250	12/1/2015	12/1/2035	6/1/2020	6/1/2040	6/1/2020	6/1/2040	0	16SP
TEXL	2013-AG3-028	78773933	CSWS	CSWS	50	1/1/2015	1/1/2025	6/1/2016	6/1/2026	6/1/2016	6/1/2026	0	15SP
TEXL	2013-AG3-029	78773967	CSWS	CSWS	27	1/1/2015	1/1/2030	6/1/2016	6/1/2031	6/1/2016	6/1/2031	0	15SP
UCU	2013-AG3-030	78748020	MPS	KCPL	2	5/1/2014	5/1/2019	1/1/2015	1/1/2020	1/1/2015	1/1/2020	0	14SP
UCU	2013-AG3-031	78754546	MPS	MPS	50	7/1/2015	1/1/2036	6/1/2017	12/1/2037	7/1/2015	1/1/2036	0	16SP
UCU	2013-AG3-032	78763378	MPS	MPS	101	7/1/2015	1/1/2036	6/1/2017	12/1/2037	7/1/2015	1/1/2036	0	16SP
UCU	2013-AG3-033	78763386	MPS	MPS	51	7/1/2015	1/1/2036	6/1/2017	12/1/2037	7/1/2015	1/1/2036	0	16SP

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**Note 1:** Start and Stop Dates with interim redispach are determined based on customers choosing option to pursue redispach to start service at Requested Start and Stop Dates or earliest date possible.

**Note 2:** Start dates with and without redispach are based on the assumed completion dates of previous Aggregate Transmission Service Studies currently being conducted. Actual start dates may differ from the potential start dates upon completion of the previous studies.

**Note 3:** Request is unable to be deferred due to fixed stop dates.

**Note 4:** Transmission customer did not select "remain in the study using interim redispach" option.

**Table 2 - Total Revenue Requirements Associated with Long-Term Transmission Service Requests**

Customer	Study Number	Reservation	Engineering and Construction Cost of Upgrades Allocated to Customer for Revenue Requirements	<sup>1</sup> Letter of Credit Amount Required	<sup>2</sup> Potential Base Plan Engineering and Construction Funding Allowable	Notes	<sup>4</sup> Additional Engineering and Construction Cost for 3rd Party Upgrades	<sup>3,5</sup> Total Revenue Requirements for Assigned Upgrades Over Term of Reservation WITH Potential Base Plan Funding Allocation	Point-to-Point Base Rate Over Reservation Period	<sup>4</sup> Total Cost of Reservation Assignable to Customer Contingent Upon Base Plan Funding
AECC	2013-AG3-001	78754116	\$1,112,771	\$1,112,771	\$0		\$0	\$1,609,120	\$0	\$1,609,120
AECC	2013-AG3-002	78754144	\$0	\$0	\$0		\$0	\$0	\$0	Schedule 9 & 11 Charges
AEPM	2013-AG3-003	78775996	\$50,193	\$0	\$50,193		\$0	\$0	\$0	Schedule 9 & 11 Charges
AEPM	2013-AG3-004	78776033	\$48,454	\$0	\$48,454		\$0	\$0	\$0	Schedule 9 & 11 Charges
AEPM	2013-AG3-005	78776041	\$41,105	\$0	\$41,105		\$0	\$0	\$0	Schedule 9 & 11 Charges
ETEC	2013-AG3-006	78774012	\$0	\$0	\$0		Note 7	\$0	\$0	Schedule 9 & 11 Charges
GRDX	2013-AG3-007	78753946	\$1,005,157	\$1,005,157	\$0	6	\$1,800,000	\$1,548,298	\$0	\$1,548,298
GRDX	2013-AG3-008	78773345	\$1,586,996	\$1,586,996	\$0		\$0	\$2,542,934	\$0	\$2,542,934
GRDX	2013-AG3-009	78773355	\$661,248	\$661,248	\$0	6	\$0	\$1,059,555	\$0	\$1,059,555
KCPS	2013-AG3-016	78758401	\$32,070	\$32,070	\$0		\$0	\$117,483	\$0	\$117,483
KCPS	2013-AG3-017	78764630	\$64,781	\$64,781	\$0		\$0	\$237,315	\$0	\$237,315
KCPS	2013-AG3-018	78764633	\$32,711	\$32,711	\$0		\$0	\$119,832	\$0	\$119,832
LESM	2013-AG3-021	78773742	\$12,859	\$12,859	\$0		\$0	\$30,189	\$0	\$30,189
OGF	2013-AG3-024	78759765	\$0	\$0	\$0		\$0	\$0	\$0	Schedule 9 & 11 Charges
OMPA	2013-AG3-025	78697838	\$0	\$0	\$0		Indeterminate	\$0	\$0	Schedule 9 & 11 Charges
SECI	2013-AG3-026	78763050	\$0	\$0	\$0		\$0	\$0	\$0	Schedule 9 & 11 Charges
SPSM	2013-AG3-027	78751808	\$0	\$0	\$0		\$0	\$0	\$0	Schedule 9 & 11 Charges
TEXL	2013-AG3-028	78773933	\$0	\$0	\$0		Note 7	\$0	\$0	Schedule 9 & 11 Charges
TEXL	2013-AG3-029	78773967	\$0	\$0	\$0		Note 7	\$0	\$0	Schedule 9 & 11 Charges
UCU	2013-AG3-030	78748020	\$781	\$0	\$781		\$0	\$0	\$0	Schedule 9 & 11 Charges
UCU	2013-AG3-031	78754546	\$18,780	\$0	\$18,780		\$0	\$0	\$0	Schedule 9 & 11 Charges
UCU	2013-AG3-032	78763378	\$37,936	\$0	\$37,936		\$0	\$0	\$0	Schedule 9 & 11 Charges
UCU	2013-AG3-033	78763386	\$19,156	\$0	\$19,156		\$0	\$0	\$0	Schedule 9 & 11 Charges
<b>Grand Total</b>			<b>\$4,724,998</b>		<b>\$216,405</b>			<b>\$7,264,726</b>		

**Note 1:** Letter of Credit required for financial security for transmission owner for network upgrades is determined by allocated engineering and construction costs less engineering and construction costs for upgrades when network customer is the transmission owner less the E & C allocation of expedited projects. Letter of Credit is required for upgrades assigned to PTP requests. The amount of the letter of credit will be adjusted down on an annual basis to reflect cost recovery based on revenue allocation. This letter of credit is not required for those facilities that are fully base plan funded. The Letter Of Credit Amount listed is based on meeting OATT Attachment J requirements for base plan funding.

**Note 2:** If potential base plan funding is applicable, this value is the lesser of the Engineering and Construction costs of assignable upgrades or the value of base plan funding calculated pursuant to Attachment J, Section III B criteria. Allocation of base plan funding is contingent upon verification of customer agreements meeting Attachment J, Section II B criteria. Not applicable if Point-to-Point base rate exceeds revenue requirements.

**Note 3:** Revenue Requirements (RR) are based upon deferred end dates if applicable. Deferred dates are based upon customer's choice to pursue redispatch. Achievable Base Plan Avoided RR in the case of a Base Plan upgrade being displaced or deferred by an earlier in service date for a Requested Upgrade shall be determined per Attachment J, Section VII.C methodology. Assumption of a 40 year service life is utilized for Base Plan funded projects. A present worth analysis of RR on a common year basis between the Base Plan and Requested Upgrades was performed to determine avoided Base Plan RR due to the displacement or deferral of the Base Plan upgrade by the Requested Upgrade. The incremental increase in present worth of a Requested Upgrade on a common year basis as a Base Plan upgrade is assigned to the transmission requests impacting the upgrade based on the displacement or deferral. If the displacement analysis results in lower RR due to the shorter amortization period of the requested upgrade when compared to a base plan amortization period, then no direct assignment of the upgrade cost is made due to the displacement to an earlier start date.

**Note 4:** For Point-to-Point requests, total cost is based on the higher of the base rate or assigned upgrade revenue requirements. For Network requests, the total cost is based on the assigned upgrade revenue requirement. Allocation of base plan funding will be determined after verification of designated resource meeting Attachment J, Section II B Criteria. Additionally E & C of 3rd Party upgrades is assignable to Customer. This includes prepayments required for any SWPA upgrades. Revenue requirements for 3rd Party facilities are not calculated. Total cost to customer is based on assumption of Revenue Requirements with confirmation of base plan funding. Customer is responsible for negotiating redispatch costs if applicable. Customer is also responsible to pay credits for previously assigned upgrades that are impacted by their request. Credits can be paid from base plan funding if applicable.

**Note 5:** RR with base plan funding may increase or decrease even if no base plan funding is applicable to a particular request if another request that shares the upgrade is now full base plan funded resulting in a different amortization period for the upgrade and thus different RR.

**Note 6:** Reservation may be eligible for Base Plan Funding subject to resolution of all pending requests.

**Note 7:** EES Network Upgrades - Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer. MISO will need to determine whether or not it is appropriate to defer request upon the expected in-service date of Entergy approved project.



Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 AECC 2013-AG3-001

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
AECC	78754116	OKGE	CSWS	150	7/1/2014	7/1/2019	6/1/2018	6/1/2023	\$ -	\$ -	\$ 1,112,771	\$ 1,609,120
									\$ -	\$ -	\$ 1,112,771	\$ 1,609,120

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78754116	AGENCY - PECAN CREEK 161KV CKT 1 #1	6/1/2016	6/1/2017			\$ -	\$ 89,594	\$ 89,594	\$ 330,000	\$ 156,617
	PECAN CREEK (PECANCK1) 345/161/13.8KV TRANSFORMER CKT 1	6/1/2017	6/1/2018			\$ -	\$ 1,004,112	\$ 1,004,112	\$ 4,000,000	\$ 1,410,577
	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ -	\$ 19,065	\$ 19,065	\$ 395,000	\$ 41,926
					Total	\$ -	\$ 1,112,771	\$ 1,112,771	\$ 4,725,000	\$ 1,609,120

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78754116	Andrews - Battle Axe 345 kV Ckt 1	6/1/2017	6/1/2020		
	Andrews - Hobbs 345 kV Ckt 1 Voltage Conversion	6/1/2017	6/1/2020		
	Andrews 345/115 kV Ckt 1 Transformer	6/1/2017	6/1/2020		
	Battle Axe - China Draw 345 kV Ckt 1	6/1/2017	6/1/2020		
	Battle Axe - Road Runner 345 kV Ckt 1	6/1/2017	6/1/2020		
	Battle Axe 345 kV Ckt 1 Terminal Upgrades	6/1/2017	6/1/2020		
	Battle Axe 345/115 kV Ckt 1 Transformer	6/1/2017	6/1/2020		
	China Draw 345 kV Ckt 1 Terminal Upgrades #2 (Battle Axe)	6/1/2017	6/1/2020		
	HANCOCK - MUSKOGEE 161KV CKT 1	6/1/2015	6/1/2017		Yes

Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78754116	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1 AECC	6/1/2021	6/1/2021		

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78754116	ASHDOWN REC (MILLWOOD) - OKAY 138KV CKT 1	7/1/2012	7/1/2012		
	ASHDOWN REC (MILLWOOD) - PATTERSON 138KV CKT 1	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	7/1/2012	7/1/2012		
	MANDEVILTP4 - SE TEXARKANA 138KV CKT 1	7/1/2012	7/1/2012		
	MANDEVILTP4 - TURK 138KV CKT 1	7/1/2012	7/1/2012		
	MCNAB REC - TURK 115KV CKT 1	7/1/2012	7/1/2012		
	OKAY - TURK 138KV CKT 1	7/1/2012	7/1/2012		
	SUGAR HILL - TURK 138KV CKT 1	7/1/2012	7/1/2012		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 AECC 2013-AG3-002

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
AECC	78754144	OKGE	OKGE	150	7/1/2014	7/1/2019	6/1/2018	6/1/2023	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78754144	None					\$ -	\$ -	\$ -	\$ -	\$ -
					Total	\$ -	\$ -	\$ -	\$ -	\$ -

\*Credits may be required for applicable generation interconnection network upgrades.

\*\*Reservation 78754144 studied as reservation 78754116

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 AEPM 2013-AG3-003

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
AEPM	78775996	OKGE	CSWS	200	1/1/2016	1/1/2036	3/1/2021	3/1/2041	\$ 50,193	\$ -	\$ 50,193	\$ 188,457
									\$ 50,193	\$ -	\$ 50,193	\$ 188,457

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78775996	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ 50,193	\$ -	\$ 50,193	\$ 395,000	\$ 188,457
Total						\$ 50,193	\$ -	\$ 50,193	\$ 395,000	\$ 188,457

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78775996	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	6/1/2015	6/1/2017		
	Multi - Gentleman - Cherry Co. - Holt Co. 345 kV	10/1/2016	1/1/2018		Yes
	Multi - Woodward District EHV - Tatonga - Matthewson - Cimarron 345 kV	10/1/2015	3/1/2021		Yes

Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78775996	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1 AECC	6/1/2021	6/1/2021		

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78775996	GRACMNT4 138.00 - WASHITA 138KV CKT 2 OKGE	1/1/2012	1/1/2012		
	GRACMNT4 138.00 - WASHITA 138KV CKT 2 WFEC	1/1/2012	1/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	7/1/2012	7/1/2012		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - IODINE 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD 345/138KV TRANSFORMER CKT 1	1/1/2010	1/1/2010		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 AEPM 2013-AG3-004

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
AEPM	78776033	SPS	CSWS	200	1/1/2016	1/1/2036	3/1/2021	3/1/2041	\$ 48,454	\$ -	\$ 48,454	\$ 181,927
									\$ 48,454	\$ -	\$ 48,454	\$ 181,927

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78776033	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ 48,454	\$ -	\$ 48,454	\$ 395,000	\$ 181,927
					Total	\$ 48,454	\$ -	\$ 48,454	\$ 395,000	\$ 181,927

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78776033	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	6/1/2015	6/1/2017		
	Multi - Gentleman - Cherry Co. - Holt Co. 345 kV	10/1/2016	1/1/2018		Yes
	Multi - Woodward District EHV - Tatonga - Matthewson - Cimarron 345 kV	10/1/2015	3/1/2021		Yes

Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78776033	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1 AECC	6/1/2021	6/1/2021		

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78776033	GRACMNT4 138.00 - WASHITA 138KV CKT 2 OKGE	1/1/2012	1/1/2012		
	GRACMNT4 138.00 - WASHITA 138KV CKT 2 WFEC	1/1/2012	1/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	7/1/2012	7/1/2012		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD 345/138KV TRANSFORMER CKT 1	1/1/2010	1/1/2010		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 AEPM 2013-AG3-005

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
AEPM	78776041	OKGE	CSWS	199	1/1/2016	1/1/2036	3/1/2021	3/1/2041	\$ 41,105	\$ -	\$ 41,105	\$ 154,334
									\$ 41,105	\$ -	\$ 41,105	\$ 154,334

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78776041	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ 41,105	\$ -	\$ 41,105	\$ 395,000	\$ 154,334
					Total	\$ 41,105	\$ -	\$ 41,105	\$ 395,000	\$ 154,334

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78776041	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	6/1/2015	6/1/2017		
	Multi - Gentleman - Cherry Co. - Holt Co. 345 kV	10/1/2016	1/1/2018		Yes
	Multi - Woodward District EHV - Tatonga - Matthewson - Cimarron 345 kV	10/1/2015	3/1/2021		Yes

Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78776041	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1 AECC	6/1/2021	6/1/2021		

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78776041	GRACMNT4 138.00 - WASHITA 138KV CKT 2 OKGE	1/1/2012	1/1/2012		
	GRACMNT4 138.00 - WASHITA 138KV CKT 2 WFEC	1/1/2012	1/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	7/1/2012	7/1/2012		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD 345/138KV TRANSFORMER CKT 1	1/1/2010	1/1/2010		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 ETEC 2013-AG3-006

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
ETEC	78774012	CSWS	CSWS	31	1/1/2015	1/1/2024	6/1/2016	6/1/2025	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78774012	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78774012	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1 AECC	6/1/2021	6/1/2021		

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78774012	GRACMNT4 138.00 - WASHITA 138KV CKT 2 OKGE	1/1/2012	1/1/2012		
	GRACMNT4 138.00 - WASHITA 138KV CKT 2 WFEC	1/1/2012	1/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	7/1/2012	7/1/2012		

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
78774012	Grimes to Ponderosa 230 kV	6/1/2015	6/1/2016		No	\$ -	\$ -
Total						\$ -	\$ -

\*Estimated cost allocation as a percentage of total cost is shown for third-party limitations when costs have not yet been established by the third-party.

\*Credits may be required for applicable generation interconnection network upgrades.

\*EES Network Upgrades - Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer. MISO may need to determine whether or not it is appropriate to defer request upon the expected in-service date of Entergy approved project.









Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 KCPS 2013-AG3-016

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KCPS	78758401	WR	KCPL	50	7/1/2015	1/1/2036	6/1/2017	12/1/2037	\$ -	\$ -	\$ 32,070	\$ 117,483
									\$ -	\$ -	\$ 32,070	\$ 117,483

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78758401	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ -	\$ 32,070	\$ 32,070	\$ 395,000	\$ 117,483
	Total					\$ -	\$ 32,070	\$ 32,070	\$ 395,000	\$ 117,483

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78758401	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	6/1/2015	6/1/2017		Yes

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78758401	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 KCPS 2013-AG3-017

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KCPS	78764630	WR	KCPL	101	7/1/2015	1/1/2036	6/1/2017	12/1/2037	\$ -	\$ -	\$ 64,781	\$ 237,315
									\$ -	\$ -	\$ 64,781	\$ 237,315

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78764630	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ -	\$ 64,781	\$ 64,781	\$ 395,000	\$ 237,315
					Total	\$ -	\$ 64,781	\$ 64,781	\$ 395,000	\$ 237,315

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78764630	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	6/1/2015	6/1/2017		Yes

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78764630	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 KCPS 2013-AG3-018

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KCPS	78764633	WR	KCPL	51	7/1/2015	1/1/2036	6/1/2017	12/1/2037	\$ -	\$ -	\$ 32,711	\$ 119,832
									\$ -	\$ -	\$ 32,711	\$ 119,832

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78764633	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ -	\$ 32,711	\$ 32,711	\$ 395,000	\$ 119,832
	Total					\$ -	\$ 32,711	\$ 32,711	\$ 395,000	\$ 119,832

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78764633	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	6/1/2015	6/1/2017		Yes

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78764633	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
LESM 2013-AG3-021

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
LESM	78773742	OKGE	LES	100	11/26/2015	11/26/2020	1/1/2018	1/1/2023	\$ -	\$ -	\$ 12,859	\$ 30,189
									\$ -	\$ -	\$ 12,859	\$ 30,189

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78773742	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ -	\$ 12,859	\$ 12,859	\$ 395,000	\$ 30,189
Total						\$ -	\$ 12,859	\$ 12,859	\$ 395,000	\$ 30,189

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78773742	Andrews - Battle Axe 345 kV Ckt 1	6/1/2017	6/1/2020		
	Andrews - Hobbs 345 kV Ckt 1 Voltage Conversion	6/1/2017	6/1/2020		
	Andrews 345/115 kV Ckt 1 Transformer	6/1/2017	6/1/2020		
	Battle Axe - China Draw 345 kV Ckt 1	6/1/2017	6/1/2020		
	Battle Axe - Road Runner 345 kV Ckt 1	6/1/2017	6/1/2020		
	Battle Axe 345 kV Ckt 1 Terminal Upgrades	6/1/2017	6/1/2020		
	Battle Axe 345/115 kV Ckt 1 Transformer	6/1/2017	6/1/2020		
	China Draw 345 kV Ckt 1 Terminal Upgrades #2 (Battle Axe)	6/1/2017	6/1/2020		
	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	6/1/2015	6/1/2017		
	Multi - Gentleman - Cherry Co. - Holt Co. 345 kV	10/1/2016	1/1/2018		Yes

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78773742	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	7/1/2012	7/1/2012		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 OGE 2013-AG3-024

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
OGE	78759765	OKGE	OKGE	16	10/1/2014	6/1/2030	1/1/2015	9/1/2030	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

  

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78759765	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 OMPA 2013-AG3-025

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
OMPA	78697838	OKGE	OKGE	4	10/1/2014	12/1/2040	3/1/2021	5/1/2047	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78697838	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78697838	Solution(s) for 2015ITP10-RVN0767, 2015ITP10-RVN0768, 2015ITP10-RVN0769, 2015ITP10-RVN0770, 20	6/1/2017	TBD		
	Multi - Woodward District EHV - Tatonga - Matthewson - Cimarron 345 kV	10/1/2015	3/1/2021		
	OMPA-MARLOW - RUSH SPRINGS TAP 138KV CKT 1	6/1/2021	6/1/2021		

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78697838	CANTON - TALOGA 69KV CKT 1	6/1/2011	6/1/2013		
	DEARING 138KV Capacitor	6/1/2012	6/1/2012		
	FT SUPPLY 138/69KV TRANSFORMER CKT 1	12/1/2006	6/1/2008		
	KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1	6/1/2006	6/1/2008		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	10/1/2010	6/1/2013		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - IODINE 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 2	1/1/2010	1/1/2010		
	WOODWARD 345/138KV TRANSFORMER CKT 1	1/1/2010	1/1/2010		

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
78697838	MEMORAL 138.00 - LUTHER 138KV CKT 1	6/1/2021	6/1/2021			100.00%	100.00%
Total						\$ -	\$ -

\*Estimated cost allocation as a percentage of total cost is shown for third-party limitations when costs have not yet been established by the third-party.

\*Credits may be required for applicable generation interconnection network upgrades.

\*Some TBD ("to be determined") Reliability Projects are required to relieve voltage limits. Since interim redispatch is not provided for voltage limits, the request may be subject to deferral if the Estimated Date of Upgrade Completion (EOC) is determined to be greater than the Earliest Date Upgrade Required (DUN). The posted facility data contains the identified voltage limits and associated TBD Reliability Projects.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
SECI 2013-AG3-026

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
SECI	78763050	KCPL	SECI	50	1/1/2015	1/1/2045	6/1/2018	6/1/2048	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78763050	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78763050	Andrews - Battle Axe 345 kV Ckt 1	6/1/2017	6/1/2020		
	Andrews - Hobbs 345 kV Ckt 1 Voltage Conversion	6/1/2017	6/1/2020		
	Andrews 345/115 kV Ckt 1 Transformer	6/1/2017	6/1/2020		
	Battle Axe - China Draw 345 kV Ckt 1	6/1/2017	6/1/2020		
	Battle Axe - Road Runner 345 kV Ckt 1	6/1/2017	6/1/2020		
	Battle Axe 345 kV Ckt 1 Terminal Upgrades	6/1/2017	6/1/2020		
	Battle Axe 345/115 kV Ckt 1 Transformer	6/1/2017	6/1/2020		
	China Draw 345 kV Ckt 1 Terminal Upgrades #2 (Battle Axe)	6/1/2017	6/1/2020		
	CIMARRON RIVER TAP - KISMET 3 115.00 115KV Ckt 1	6/1/2015	6/1/2018		Yes
	CUDAHY - KISMET 3 115.00 115KV Ckt 1	6/1/2015	6/1/2018		Yes
	Solution(s) for 2015ITP10-RON0062, 2015ITP10-RON0063, 2015ITP10-RON0064, 2015ITP10-RON0373, 2015ITP10-RVN1200, 2015ITP10-RVN1201, 2015ITP10-RVN1202, 2015ITP10-RVN1203, 2015ITP10-RVN1204	6/1/2016	TBD		
	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	6/1/2015	6/1/2017		Yes
	Solution(s) for 2015ITP10-RON0376, 2015ITP10-RON1044, 2015ITP10-RON1622	6/1/2021	TBD		
	Solution(s) for 2015ITP10-RON0496, 2015ITP10-RON0497, 2015ITP10-RON0503, 2015ITP10-RON1085, 2015ITP10-RON1086	6/1/2017	TBD		
	Solution(s) for 2015ITP10-RON1816	6/1/2015	TBD		
	Solution(s) for 2015ITPNT-RON0087, 2015ITPNT-RON0088, 2015ITPNT-RON0089, 2015ITP10-RON0371, 2015ITP10-RON0372	6/1/2015	TBD		
	Solution(s) for 2015ITPNT-RON0090, 2015ITPNT-RON0633, 2015ITP10-RON0494, 2015ITP10-RON0495, 2015ITP10-RON0496	6/1/2017	TBD		
	Solution(s) for 2015ITPNT-RON0183, 2015ITP10-RON0500, 2015ITP10-RON0501, 2015ITP10-RON0506, 2015ITP10-RON0507	6/1/2017	TBD		

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78763050	BARBER - MEDICINE LODGE 115KV Ckt 1	12/1/2009	6/1/2013		
	BARBER (BARBER 4) 138/115/2.72KV TRANSFORMER Ckt 1	12/1/2009	6/1/2013		
	CLIFTON - GREENLEAF 115KV Ckt 1	6/1/2011	6/1/2013		
	FLATRDG3 138.00 - MEDICINE LODGE 138KV Ckt 1	12/1/2009	6/1/2013		
	GREENLEAF - KNOB HILL 115KV Ckt 1 MKEC	6/1/2013	6/1/2013		
	LACYGNE - WEST GARDNER 345KV Ckt 1	6/1/2006	6/1/2006		
	NORTHWEST - TATONGA 345KV Ckt 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV Ckt 1	1/1/2010	1/1/2010		

\*Credits may be required for applicable generation interconnection network upgrades.

\*Some TBD ("to be determined") Reliability Projects are required to relieve voltage limits. Since interim redispatch is not provided for voltage limits, the request may be subject to deferral if the Estimated Date of Upgrade Completion (EOC) is determined to be greater than the Earliest Date Upgrade Required (DUN). The posted facility data contains the identified voltage limits and associated TBD Reliability Projects.



Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
SPSM 2013-AG3-027

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
SPSM	78751808	SPS	SPS	250	12/1/2015	12/1/2035	6/1/2020	6/1/2040	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78751808	None					\$ -	\$ -	\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -	\$ -	\$ -

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78751808	Andrews - Battle Axe 345 kV Ckt 1	6/1/2017	6/1/2020		No
	Andrews - Hobbs 345 kV Ckt 1 Voltage Conversion	6/1/2017	6/1/2020		No
	Andrews 345/115 kV Ckt 1 Transformer	6/1/2017	6/1/2020		No
	Battle Axe - China Draw 345 kV Ckt 1	6/1/2017	6/1/2020		No
	Battle Axe - Road Runner 345 kV Ckt 1	6/1/2017	6/1/2020		No
	Battle Axe 345 kV Ckt 1 Terminal Upgrades	6/1/2017	6/1/2020		No
	Battle Axe 345/115 kV Ckt 1 Transformer	6/1/2017	6/1/2020		No
	China Draw 345 kV Ckt 1 Terminal Upgrades #2 (Battle Axe)	6/1/2017	6/1/2020		No
	Solution(s) for 2015ITP10-RON1462, 2015ITP10-RON1463, 2015ITPNT-RON0222, 2015ITPNT-RON0223, 2	6/1/2017	TBD		
	Hobbs - Yoakum 345 kV Ckt 1	6/1/2016	6/1/2020		No
	Solution(s) for 2015ITP10-RON0015, 2015ITP10-RON0016, 2015ITPNT-RON0742, and 2015ITPNT-RON074	6/1/2017	TBD		
	Solution(s) for 2015ITP10-RON1458, 2015ITP10-RON1459, 2015ITPNT-RON0206, 2015ITPNT-RON0207, 2	6/1/2017	TBD		
	Solution(s) for 2015ITP10-RON1460, 2015ITP10-RON1461, 2015ITPNT-RON0214, 2015ITPNT-RON0215, 2	6/1/2017	TBD		
	Solution(s) for 2015ITP10-RON1464 and 2015ITP10-RON1465	10/1/2021	TBD		
	Solution(s) for 2015ITP10-RON1830, 2015ITP10-RON1831, 2015ITP10-RON1832, and 2015ITP10-RON183	12/1/2015	TBD	10/1/2015	
	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1	6/1/2023	6/1/2023		
	Tuco - Yoakum 345 kV Ckt 1	6/1/2016	6/1/2020		No

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 TEXTL 2013-AG3-028

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
TEXTL	78773933	CSWS	CSWS	50	1/1/2015	1/1/2025	6/1/2016	6/1/2026	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78773933	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78773933	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1 AECC	6/1/2021	6/1/2021		

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78773933	GRACMNT4 138.00 - WASHITA 138KV CKT 2 OKGE	1/1/2012	1/1/2012		
	GRACMNT4 138.00 - WASHITA 138KV CKT 2 WFEC	1/1/2012	1/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	7/1/2012	7/1/2012		

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
78773933	Grimes to Ponderosa 230 kV	6/1/2015	6/1/2016		No	\$ -	\$ -
Total						\$ -	\$ -

\*Estimated cost allocation as a percentage of total cost is shown for third-party limitations when costs have not yet been established by the third-party.

\*Credits may be required for applicable generation interconnection network upgrades.

\*EES Network Upgrades - Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer. MISO may need to determine whether or not it is appropriate to defer request upon the expected in-service date of Entergy approved project.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
 TEXTL 2013-AG3-029

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
TEXTL	78773967	CSWS	CSWS	27	1/1/2015	1/1/2030	6/1/2016	6/1/2031	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78773967	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78773967	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1 AECC	6/1/2021	6/1/2021		

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78773967	GRACMNT4 138.00 - WASHITA 138KV CKT 2 OKGE	1/1/2012	1/1/2012		
	GRACMNT4 138.00 - WASHITA 138KV CKT 2 WFEC	1/1/2012	1/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	7/1/2012	7/1/2012		

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
78773967	Grimes to Ponderosa 230 kV	6/1/2015	6/1/2016		No	\$ -	\$ -
Total						\$ -	\$ -

\*Estimated cost allocation as a percentage of total cost is shown for third-party limitations when costs have not yet been established by the third-party.

\*Credits may be required for applicable generation interconnection network upgrades.

\*EES Network Upgrades - Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer. MISO may need to determine whether or not it is appropriate to defer request upon the expected in-service date of Entergy approved project.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
UCU 2013-AG3-030

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
UCU	78748020	MPS	KCPL	2	5/1/2014	5/1/2019	1/1/2015	1/1/2020	\$ 781	\$ -	\$ 781	\$ 1,718
									\$ 781	\$ -	\$ 781	\$ 1,718

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78748020	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ 781	\$ 395,000	\$ 1,718
Total						\$ 781	\$ 395,000	\$ 1,718

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78748020	EASTOWN7 345.00 (EASTOWN 345) 345/161/13.8KV TRANSFORMER CKT 1	5/1/2014	5/1/2014		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
UCU 2013-AG3-031

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
UCU	78754546	MPS	MPS	50	7/1/2015	1/1/2036	6/1/2017	12/1/2037	\$ 18,780	\$ -	\$ 18,780	\$ 68,798
									\$ 18,780	\$ -	\$ 18,780	\$ 68,798

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78754546	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ 18,780	\$ -	\$ 18,780	\$ 395,000	\$ 68,798
					Total	\$ 18,780	\$ -	\$ 18,780	\$ 395,000	\$ 68,798

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78754546	EASTOWN7 345.00 (EASTOWN 345) 345/161/13.8KV TRANSFORMER CKT 1	5/1/2014	5/1/2014		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
UCU 2013-AG3-032

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
UCU	78763378	MPS	MPS	101	7/1/2015	1/1/2036	6/1/2017	12/1/2037	\$ 37,936	\$ -	\$ 37,936	\$ 138,973
									\$ 37,936	\$ -	\$ 37,936	\$ 138,973

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78763378	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ 37,936	\$ -	\$ 37,936	\$ 395,000	\$ 138,973
					Total	\$ 37,936	\$ -	\$ 37,936	\$ 395,000	\$ 138,973

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78763378	EASTOWN7 345.00 (EASTOWN 345) 345/161/13.8KV TRANSFORMER CKT 1	5/1/2014	5/1/2014		

\*Credits may be required for applicable generation interconnection network upgrades.

Table 3 - Additional Details for Each Request Including All Facility Upgrades Required and Allocated Costs for Each Upgrade

Customer Study Number  
UCU 2013-AG3-033

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
UCU	78763386	MPS	MPS	51	7/1/2015	1/1/2036	6/1/2017	12/1/2037	\$ 19,156	\$ -	\$ 19,156	\$ 70,175
									\$ 19,156	\$ -	\$ 19,156	\$ 70,175

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
78763386	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	6/1/2016	6/1/2017			\$ 19,156	\$ -	\$ 19,156	\$ 395,000	\$ 70,175
					Total	\$ 19,156	\$ -	\$ 19,156	\$ 395,000	\$ 70,175

Credits may be required for the following Network Upgrades in accordance with Attachment Z2 of the SPP OATT.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
78763386	EASTOWN7 345.00 (EASTOWN 345) 345/161/13.8KV TRANSFORMER CKT 1	5/1/2014	5/1/2014		

\*Credits may be required for applicable generation interconnection network upgrades.

**Table 4 - Upgrade Requirements and Solutions Needed to Provide Transmission Service for the Aggregate Study**

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)	Estimated Engineering & Construction Cost
OKGE	AGENCY - PECAN CREEK 161KV CKT 1 #1	Upgrade Agency Substation equipment	6/1/2016	6/1/2017	\$330,000.00
OKGE	PECAN CREEK (PECANCK1) 345/161/13.8KV TRANSFORMER CKT 1	Replace existing 345/161 kV 370 MVA transformer with 493 MVA	6/1/2017	6/1/2018	\$4,000,000.00
WERE	SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	Replace Terminal Equipment	6/1/2016	6/1/2017	\$395,000.00

Construction Pending Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
AECC	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1 AECC	Upgrade 1272 AAC bus at Farmington REC. Replace bus at Farmington REC and rebuild 400 feet of the 161 kV line going to Chamber Springs.	6/1/2021	6/1/2021



**Table 4 - Upgrade Requirements and Solutions Needed to Provide Transmission Service for the Aggregate Study**

Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
AEPW	OMPA-MARLOW - RUSH SPRINGS TAP 138KV CKT 1	Rebuild 8.59 miles with 1533.3 ACSR/TW	6/1/2021	6/1/2021
MKEC	CIMARRON RIVER TAP - KISMET 3 115.00 115KV CKT 1	Rebuild 3.37 miles and Substation work	6/1/2015	6/1/2018
MKEC	CUDAHY - KISMET 3 115.00 115KV CKT 1	Rebuild 23.17 miles and increase terminal limits to at least 146MVA Summer Rate B.	6/1/2015	6/1/2018
NPPD	Multi - Gentleman - Cherry Co. - Holt Co. 345 kV	Build new 222 mile, 345 kV line from Gentleman - Cherry Co - Holt Co. Build new 345 kV substations at Cherry Co and Holt Co. Terminal upgrades at Gentleman. This project is contingent upon WAPA approval to tap the Grand Island - Fort Thompson 345 kV line.	10/1/2016	1/1/2018
OKGE	HANCOCK - MUSKOGEE 161KV CKT 1	Replace Muskogee Terminal Equipment	6/1/2015	6/1/2017
OKGE	Multi - Woodward District EHV - Tatonga - Matthewson - Cimarron 345 kV	Build new 126 mile Woodward - Tatonga 345 kV circuit 2 and Tatonga - Matthewson - Cimarron 345 kV line.	10/1/2015	3/1/2021
SPS	Andrews - Battle Axe 345 kV Ckt 1	Construct new 70-mile 345 kV line from Battle Axe to Andrews. Line will be routed adjacent to Toboso Flats 115 kV substation.	6/1/2017	6/1/2020
SPS	Andrews - Hobbs 345 kV Ckt 1 Voltage Conversion	Convert existing 30.5-mile 230 kV line from Andrews to Hobbs to 345 kV. Re-terminate line on 345 kV bus at Hobbs. Ratings will be based on current conductors - bundled 795 ACSR.	6/1/2017	6/1/2020
SPS	Andrews 345/115 kV Ckt 1 Transformer	Install new 345/115 kV 448 MVA transformer at Andrews substation and remove two 230/115 kV transformers. Install any necessary 115 kV terminal equipment.	6/1/2017	6/1/2020
SPS	Battle Axe - China Draw 345 kV Ckt 1	Construct new 35-mile 345 kV line from Battle Axe to China Draw. Install 345 kV breakers and sub as needed for termination.	6/1/2017	6/1/2020
SPS	Battle Axe - Road Runner 345 kV Ckt 1	Construct new 15-mile 345 kV line from Battle Axe to Road Runner. Install 345 kV bus at Road Runner for 4 transformer or line terminations, expandable for future terminations.	6/1/2017	6/1/2020
SPS	Battle Axe 345 kV Ckt 1 Terminal Upgrades	Construct new 345 kV terminal at the Battle Axe substation. Install any necessary 345 kV terminal equipment for 4 transformer/line terminations in ring configuration expandable to future breaker and a half.	6/1/2017	6/1/2020
SPS	Battle Axe 345/115 kV Ckt 1 Transformer	Install new 345/115 kV 448 MVA transformer at new Battle Axe substation. Install any necessary 115 kV terminal equipment as expandable breaker and half design.	6/1/2017	6/1/2020
SPS	China Draw 345 kV Ckt 1 Terminal Upgrades #2 (Battle Axe)	Install 345 kV terminal at China Draw to terminate the new 345 kV line from Battle Axe. Install any necessary 345 kV terminal equipment.	6/1/2017	6/1/2020
SPS	Hobbs - Yoakum 345 kV Ckt 1	Construct new 52-mile 345 kV line from Hobbs to Yoakum.	6/1/2016	6/1/2020
SPS	SUNDOWN INTERCHANGE (WH XDS70381) 230/115/13.8KV TRANSFORMER CKT 1	Increase Sundown 230/115 kV transformer to 250 MVA	6/1/2023	6/1/2023
SPS	Tuco - Yoakum 345 kV Ckt 1	Construct new 107-mile 345 kV line from Tuco to Yoakum.	6/1/2016	6/1/2020
TBD	Solution(s) for 2015ITP10-RON0062, 2015ITP10-RON0063, 2015ITP10-RON0064, 2015ITP10-RON0373, 2015ITP10-RON0374, 2015ITP10-RON0498, 2015ITP10-RON0499, 2015ITP10-RON0504, 2015ITP10-RON0505, 2015ITP10-RON1087, 2015ITP10-RON1088, 2015ITP10-RON1091, 2015ITP10-RON1092, 2015ITP10-RON1628, 2015ITP10-RON1629, 2015ITPNT-RON0133, 2015ITPNT-RON0134, 2015ITPNT-RON0135, 2015ITPNT-RON0136, and 2015ITPNT-RON0137	Solution(s) for 2015ITP10-RON0062, 2015ITP10-RON0063, 2015ITP10-RON0064, 2015ITP10-RON0373, 2015ITP10-RON0374, 2015ITP10-RON0498, 2015ITP10-RON0499, 2015ITP10-RON0504, 2015ITP10-RON0505, 2015ITP10-RON1087, 2015ITP10-RON1088, 2015ITP10-RON1091, 2015ITP10-RON1092, 2015ITP10-RON1628, 2015ITP10-RON1629, 2015ITPNT-RON0133, 2015ITPNT-RON0134, 2015ITPNT-RON0135, 2015ITPNT-RON0136, and 2015ITPNT-RON0137	6/1/2015	TBD



**Table 4 - Upgrade Requirements and Solutions Needed to Provide Transmission Service for the Aggregate Study**

TBD	Solution(s) for 2015ITP10-RON1462, 2015ITP10-RON1463, 2015ITPNT-RON0222, 2015ITPNT-RON0223, 2015ITPNT-RON0224, 2015ITPNT-RON0225, 2015ITPNT-RON0226, 2015ITPNT-RON0227, 2015ITPNT-RON0228, 2015ITPNT-RON0229, 2015ITPNT-RON0230, 2015ITPNT-RON0231, 2015ITPNT-RON0232, 2015ITPNT-RON0233, 2015ITPNT-RON0234, 2015ITPNT-RON0235, 2015ITPNT-RON0236, 2015ITPNT-RON0237, 2015ITPNT-RON0238, 2015ITPNT-RON0239, 2015ITPNT-RON0240, 2015ITPNT-RON0241, 2015ITPNT-RON0242, 2015ITPNT-RON0243, 2015ITPNT-RON0244	Solution(s) for 2015ITP10-RON1462, 2015ITP10-RON1463, 2015ITPNT-RON0222, 2015ITPNT-RON0223, 2015ITPNT-RON0224, 2015ITPNT-RON0225, 2015ITPNT-RON0226, 2015ITPNT-RON0227, 2015ITPNT-RON0228, 2015ITPNT-RON0229, 2015ITPNT-RON0230, 2015ITPNT-RON0231, 2015ITPNT-RON0232, 2015ITPNT-RON0233, 2015ITPNT-RON0234, 2015ITPNT-RON0235, 2015ITPNT-RON0236, 2015ITPNT-RON0237, 2015ITPNT-RON0238, 2015ITPNT-RON0239, 2015ITPNT-RON0240, 2015ITPNT-RON0241, 2015ITPNT-RON0242, 2015ITPNT-RON0243, 2015ITPNT-RON0244	6/1/2017	TBD
TBD	Solution(s) for 2015ITP10-RON0015, 2015ITP10-RON0016, 2015ITPNT-RON0742, and 2015ITPNT-RON0743	Solution(s) for 2015ITP10-RON0015, 2015ITP10-RON0016, 2015ITPNT-RON0742, and 2015ITPNT-RON0743	6/1/2017	TBD
TBD	Solution(s) for 2015ITP10-RON0376, 2015ITP10-RON1044, 2015ITP10-RON1622	Solution(s) for 2015ITP10-RON0376, 2015ITP10-RON1044, 2015ITP10-RON1622	6/1/2021	TBD
TBD	Solution(s) for 2015ITP10-RON0496, 2015ITP10-RON0497, 2015ITP10-RON0503, 2015ITP10-RON1085, 2015ITP10-RON1086, 2015ITP10-RON1626, 2015ITP10-RON1627, and 2015ITPNT-RON0132	Solution(s) for 2015ITP10-RON0496, 2015ITP10-RON0497, 2015ITP10-RON0503, 2015ITP10-RON1085, 2015ITP10-RON1086, 2015ITP10-RON1626, 2015ITP10-RON1627, and 2015ITPNT-RON0132	6/1/2017	TBD
TBD	Solution(s) for 2015ITP10-RON1458, 2015ITP10-RON1459, 2015ITPNT-RON0206, 2015ITPNT-RON0207, 2015ITPNT-RON0208, 2015ITPNT-RON0209, 2015ITPNT-RON0210, 2015ITPNT-RON0211, 2015ITPNT-RON0212, and 2015ITPNT-RON0213	Solution(s) for 2015ITP10-RON1458, 2015ITP10-RON1459, 2015ITPNT-RON0206, 2015ITPNT-RON0207, 2015ITPNT-RON0208, 2015ITPNT-RON0209, 2015ITPNT-RON0210, 2015ITPNT-RON0211, 2015ITPNT-RON0212, and 2015ITPNT-RON0213	6/1/2017	TBD
TBD	Solution(s) for 2015ITP10-RON1460, 2015ITP10-RON1461, 2015ITPNT-RON0214, 2015ITPNT-RON0215, 2015ITPNT-RON0216, 2015ITPNT-RON0217, 2015ITPNT-RON0218, 2015ITPNT-RON0219, 2015ITPNT-RON0220, and 2015ITPNT-RON0221	Solution(s) for 2015ITP10-RON1460, 2015ITP10-RON1461, 2015ITPNT-RON0214, 2015ITPNT-RON0215, 2015ITPNT-RON0216, 2015ITPNT-RON0217, 2015ITPNT-RON0218, 2015ITPNT-RON0219, 2015ITPNT-RON0220, and 2015ITPNT-RON0221	6/1/2017	TBD
TBD	Solution(s) for 2015ITP10-RON1464 and 2015ITP10-RON1465	Solution(s) for 2015ITP10-RON1464 and 2015ITP10-RON1465	10/1/2021	TBD
TBD	Solution(s) for 2015ITP10-RON1816	Solution(s) for 2015ITP10-RON1816	6/1/2015	TBD
TBD	Solution(s) for 2015ITP10-RON1830, 2015ITP10-RON1831, 2015ITP10-RON1832, and 2015ITP10-RON1833	Solution(s) for 2015ITP10-RON1830, 2015ITP10-RON1831, 2015ITP10-RON1832, and 2015ITP10-RON1833	12/1/2015	TBD
TBD	Solution(s) for 2015ITPNT-RON0087, 2015ITPNT-RON0088, 2015ITPNT-RON0089, 2015ITP10-RON0371, 2015ITP10-RON0372, 2015ITP10-RON1082, and 2015ITP10-RON1623	Solution(s) for 2015ITPNT-RON0087, 2015ITPNT-RON0088, 2015ITPNT-RON0089, 2015ITP10-RON0371, 2015ITP10-RON0372, 2015ITP10-RON1082, and 2015ITP10-RON1623	6/1/2015	TBD
TBD	Solution(s) for 2015ITPNT-RON0090, 2015ITPNT-RON0633, 2015ITP10-RON0494, 2015ITP10-RON0495, 2015ITP10-RON0502, 2015ITP10-RON1083, 2015ITP10-RON1084, 2015ITP10-RON1624, and 2015ITP10-RON1625	Solution(s) for 2015ITPNT-RON0090, 2015ITPNT-RON0633, 2015ITP10-RON0494, 2015ITP10-RON0495, 2015ITP10-RON0502, 2015ITP10-RON1083, 2015ITP10-RON1084, 2015ITP10-RON1624, and 2015ITP10-RON1625	6/1/2017	TBD
TBD	Solution(s) for 2015ITPNT-RON0183, 2015ITP10-RON0500, 2015ITP10-RON0501, 2015ITP10-RON0506, 2015ITP10-RON1089, 2015ITP10-RON1090, 2015ITP10-RON1630, and 2015ITP10-RON1631	Solution(s) for 2015ITPNT-RON0183, 2015ITP10-RON0500, 2015ITP10-RON0501, 2015ITP10-RON0506, 2015ITP10-RON1089, 2015ITP10-RON1090, 2015ITP10-RON1630, and 2015ITP10-RON1631	6/1/2017	TBD
WERE	Multi - Geary County 345/115 kV and Geary - Chapman 115 kV	Build new Geary County 345/115 kV substation south of Junction City where JEC-Summit and McDowell Creek-Junction City #2 ckt separate. Construct new Geary County - Chapman 115 kV line.	6/1/2015	6/1/2017

The Upgrade and Solution for TBD ("to be determined") Reliability Projects contain the related Need Identification numbers used in the 2015 Integrated Transmission Planning Near-Term Assessment and 2015 Integrated Transmission Planning 10-Year Assessment. The designated

**Table 4 - Upgrade Requirements and Solutions Needed to Provide Transmission Service for the Aggregate Study**

Network Upgrades requiring credits per Attachment 22 of the SPP OATT.

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
AEPW	ASHDOWN REC (MILLWOOD) - OKAY 138KV CKT 1	Recunductor and convert line to 138 kV and replace switches at Ashdown REC	7/1/2012	7/1/2012
AEPW	ASHDOWN REC (MILLWOOD) - PATTERSON 138KV CKT 1	Reconductor Line & Convert Line to 138 kV and convert Patterson station to breaker-and-a half cofiguration	7/1/2012	7/1/2012
AEPW	HUGO POWER PLANT - VALLIANT 345 KV AEPW	Vallient 345 KV line terminal	7/1/2012	7/1/2012
AEPW	MANDEVILTP4 - SE TEXARKANA 138KV CKT 1	Build new Turk-SE Texarkana 138 kV line and add SE Texarkana 138 kV terminal.	7/1/2012	7/1/2012
AEPW	MANDEVILTP4 - TURK 138KV CKT 1	Build new Turk-SE Texarkana 138 kV line and add SE Texarkana 138 kV terminal.	7/1/2012	7/1/2012
AEPW	MCNAB REC - TURK 115KV CKT 1	Build a new two mile, 138 kV, 1590 ACSR line section (operated at 115 kV) from Turk Substation to the existing Okay- Hope 115 kV line to form a Turk - Hope 115 kV line.	7/1/2012	7/1/2012
AEPW	OKAY - TURK 138KV CKT 1	Build two mile, 138 kV, 1590ACSR line section from Turk Sub to existing Okay-Hope 115 kV line and rebuild twelve miles of 115 kV line to Okay Sub to 138 kV, 1590 ACSR , to form a Turk-Okay 138 kV line	7/1/2012	7/1/2012
AEPW	SUGAR HILL - TURK 138KV CKT 1	Build new Turk-Sugar Hill 138 kV line and add Sugar Hill 138 kV terminal.	7/1/2012	7/1/2012
KACP	EASTOWN7 345.00 (EASTOWN 345) 345/161/13.8KV TRANSFORMER CKT 1	Replace 715 MVA transformer.	5/1/2014	5/1/2014
KACP	LACYGNE - WEST GARDNER 345KV CKT 1	KCPL Sponsored Project to Reconductor Line to be In-Service by 6/1/2006	6/1/2006	6/1/2006
MKEC	BARBER - MEDICINE LODGE 115KV CKT 1	Rebuild line	12/1/2009	6/1/2013
MKEC	BARBER (BARBER 4) 138/115/2.72KV TRANSFORMER CKT 1	Upgrade transformer	12/1/2009	6/1/2013
MKEC	CLIFTON - GREENLEAF 115KV CKT 1	Rebuild 14.4 miles	6/1/2011	6/1/2013
MKEC	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1	Rebuild 8.05 mile line	12/1/2009	6/1/2013
MKEC	GREENLEAF - KNOB HILL 115KV CKT 1 MKEC	Rebuild 43.5% Ownership of 20.9 miles	6/1/2013	6/1/2013
OKGE	GRACMNT4 138.00 - WASHITA 138KV CKT 2 OKGE	Build 138kV Terminal.	1/1/2012	1/1/2012
OKGE	KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1	Replace bus tie with 100MVA transformer	6/1/2006	6/1/2008
OKGE	NORTHWEST - TATONGA 345KV CKT 1	Build 345 kV line	1/1/2010	1/1/2010
OKGE	TATONGA - WOODWARD 345KV CKT 1	Build 345 kV line	1/1/2010	1/1/2010
OKGE	WOODWARD - IODINE 138KV CKT 1	Tap Iodine to Woodward 138 kV line	1/1/2010	1/1/2010
OKGE	WOODWARD - WOODWARD EHV 138KV CKT 1	Build .5 miles of 138 kV and install terminal equipment	1/1/2010	1/1/2010
OKGE	WOODWARD - WOODWARD EHV 138KV CKT 2	Build .5 miles of 138 kV and install terminal equipment	1/1/2010	1/1/2010
OKGE	WOODWARD 345/138KV TRANSFORMER CKT 1	Install 345/138 kV XF	1/1/2010	1/1/2010
WERE	DEARING 138KV Capacitor	Dearing 138 kV 20 MVAR Capacitor Addition	6/1/2012	6/1/2012
WFEC	CANTON - TALOGA 69KV CKT 1	UPGRADE CANTON TO TALOGA TO 336.4	6/1/2011	6/1/2013
WFEC	FT SUPPLY 138/69KV TRANSFORMER CKT 1	Install 2nd 70 MVA auto at Ft Supply	12/1/2006	6/1/2008
WFEC	GRACMNT4 138.00 - WASHITA 138KV CKT 2 WFEC	Build approximately 6 miles of 138kV.	1/1/2012	1/1/2012
WFEC	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	New 19 miles 345 KV	7/1/2012	7/1/2012
WFEC	TALOGA (TALOGA) 138/69/13.8KV TRANSFORMER CKT 1	Auto XFMR 56 to 112MVA	10/1/2010	6/1/2013

**Table 4 - Upgrade Requirements and Solutions Needed to Provide Transmission Service for the Aggregate Study**

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**Table 4 - Upgrade Requirements and Solutions Needed to Provide Transmission Service for the Aggregate Study**

Transmission Owner(s), and respective Estimated Date of Upgrade Completion has yet to be determined.



**Table 5 - Third Party Facility Constraints**

Transmission Owner	UpgradeName	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)	Estimated Engineering & Construction Cost
AECI	4MEMORAL 138.00 - LUTHER 138KV CKT 1	Indeterminate	6/1/2021	6/1/2021	Indeterminate
AECI	FAIRFAX 138/69KV TRANSFORMER CKT 1	Replace with 84 MVA unit	6/1/2016	6/1/2016	\$1,800,000.00
EES	Grimes to Ponderosa 230 kV	Add 345-230 kV Auto at Grimes and Add 230-138 kV Auto at Ponderosa	6/1/2015	6/1/2016	See Note

Note: EES Network Upgrades - Construction Pending - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer. MISO will need to determine whether or not it is appropriate to defer request upon the expected in-service date of Entergy approved project.

**Table 7- Service Upgrade Cost Allocation per Request**

<b>Upgrade Name</b>	<b>Customer</b>	<b>Study Number</b>	<b>Reservation</b>	<b>Allocation Percentage</b>	<b>Allocated E &amp; C Cost</b>
AGENCY - PECAN CREEK 161KV CKT 1 #1	AECC	2013-AG3-001	78754116	27.15%	\$89,594
AGENCY - PECAN CREEK 161KV CKT 1 #1	GRDX	2013-AG3-007	78753946	24.34%	\$80,316
AGENCY - PECAN CREEK 161KV CKT 1 #1	GRDX	2013-AG3-008	78773345	34.24%	\$113,004
AGENCY - PECAN CREEK 161KV CKT 1 #1	GRDX	2013-AG3-009	78773355	14.27%	\$47,085
				<b>Total:</b>	<b>\$330,000</b>

**Table 7- Service Upgrade Cost Allocation per Request**

<b>Upgrade Name</b>	<b>Customer</b>	<b>Study Number</b>	<b>Reservation</b>	<b>Allocation Percentage</b>	<b>Allocated E &amp; C Cost</b>
PECAN CREEK (PECANCK1) 345/161/13.8KV TRANSFORMER CKT 1	AECC	2013-AG3-001	78754116	25.10%	\$1,004,112
PECAN CREEK (PECANCK1) 345/161/13.8KV TRANSFORMER CKT 1	GRDX	2013-AG3-007	78753946	22.69%	\$907,733
PECAN CREEK (PECANCK1) 345/161/13.8KV TRANSFORMER CKT 1	GRDX	2013-AG3-008	78773345	36.85%	\$1,473,992
PECAN CREEK (PECANCK1) 345/161/13.8KV TRANSFORMER CKT 1	GRDX	2013-AG3-009	78773355	15.35%	\$614,163
				<b>Total:</b>	<b>\$4,000,000</b>

**Table 7- Service Upgrade Cost Allocation per Request**

Upgrade Name	Customer	Study Number	Reservation	Allocation Percentage	Allocated E & C Cost
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	AECC	2013-AG3-001	78754116	4.83%	\$19,065
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	AEPM	2013-AG3-003	78775996	12.71%	\$50,193
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	AEPM	2013-AG3-004	78776033	12.27%	\$48,454
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	AEPM	2013-AG3-005	78776041	10.41%	\$41,105
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	GRDX	2013-AG3-007	78753946	4.33%	\$17,108
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	KCPS	2013-AG3-016	78758401	8.12%	\$32,070
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	KCPS	2013-AG3-017	78764630	16.40%	\$64,781
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	KCPS	2013-AG3-018	78764633	8.28%	\$32,711
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	LESM	2013-AG3-021	78773742	3.26%	\$12,859
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	UCU	2013-AG3-030	78748020	0.20%	\$781
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	UCU	2013-AG3-031	78754546	4.75%	\$18,780
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	UCU	2013-AG3-032	78763378	9.60%	\$37,936
SWISSVALE - WEST GARDNER 345KV CKT 1 WERE	UCU	2013-AG3-033	78763386	4.85%	\$19,156
				<b>Total:</b>	<b>\$395,000</b>