AGGREGATE FACILITIES STUDY

SPP-2019-AG1-AFS-1

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SPP Engineering, SPP Transmission Services

REVISION HISTORY

DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION	COMMENTS
9/9/2019	SPP	Original	

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EXECUTIVE SUMMARY

This study report provides preliminary results for Southwest Power Pool, Inc. (SPP) Aggregate Transmission Service Study (ATSS) SPP-2019-AG1-AFS-1. Pursuant to Attachment Z1 of the SPP Open Access Transmission Tariff (OATT), 3,448 MW of long-term transmission service requests have been studied in this Aggregate Facilities 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. Facility upgrade costs are allocated on a prorated basis to all requests positively impacting any individual overloaded facility.

Transmission Customers (Customer) requesting service in this study specified five parameters under which they agreed to confirm service. The five parameters are:

1. Directly Assigned Upgrade Cost (E&C and Credit Payment Obligation)
2. Third-Party Upgrade Cost
3. Latest Deferred Start Date
4. Interim Re-dispatch Acceptance
5. Letter of Credit Amount

The report indicates for each request whether any of the five parameters were exceeded. The specific parameters defined by the Customer are kept confidential and are not included in this report.

SPP will tender an **AFS – Appendix 1 – Update** form on September 9, 2019 to the Customers with a request(s) that have one or more study parameters that were not met. This will open a 5-Business Day window for Customer response. To remain in the ATSS, SPP must receive from the Customer by September 16, 2019, the AFS – Appendix 1 – Update form with the adjusted parameters that were not met. The AFS Appendix 1 – Update will indicate the parameters that were not met and need to be adjusted by the Customer. If the Customer does not increase the exceeded parameter or does not respond within five Business Days, the request will be removed from study. There is no action required on OASIS by the Customer.

Following the end of the response period, SPP will conclude the study using the revised parameters. Any requests that cannot be provided under the parameters specified will be removed from study and the Customer may re-submit the request during the next open season. SPP will post a final study report within 165 days of the close of the open season which will detail the results for all requests, including those that are removed from study. At the conclusion of the ATSS, Service Agreements for each request for service will be tendered identifying the terms and conditions of the confirmed service.

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

All requests for long-term transmission service with a Completed Application received before June 1, 2019 have been included in this ATSS.

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 of the SPP OATT.

To understand the extent to which Base Plan Upgrades may be applied to both Point-to-Point (PTP) and Network Integration Transmission Services (NITS), it is necessary to highlight the definition of Designated Resource. Per Section 1 of the SPP OATT, a Designated Resource is:

> "Any 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."

Both NITS and PTP service have 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 Customer must provide SPP information necessary to verify that the new or changed Designated Resource meets the following conditions:

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

According to Attachment Z1 Section V.A, PTP Customers pay the higher of the monthly transmission access charge (base rate) or the monthly revenue requirement associated with the directly assigned portion of the Service Upgrade, if any.

NITS Customers pay the total monthly transmission access charges and the monthly revenue requirement associated with the directly assigned portion of the Service Upgrade, if any.

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. 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. The ATC may be limited by expansion plan projects or Customer assigned upgrades.

Some constraints identified in the AFS were not assigned to the Customer because SPP 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. Table 7 lists the costs allocated per request for each Service Upgrade assigned in this AFS.

By taking the transmission service subject to interim redispatch, the Customer agrees to any limitations to Auction Revenue Rights that may result. In the absence of implementation of interim redispatch as requested by SPP for Customer transactions resulting in overloads on limiting facilities, SPP may curtail the Customer’s schedule.

FINANCIAL ANALYSIS

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 5, Use of Interim Redispatch, in Appendix 1 of the Aggregate Facilities Study Agreement, 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 Customer will pay the total E&C costs and other annual operating costs associated with the new facilities.

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 through 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 deferred or displaced by an earlier in service date for a requested upgrade, the methodology for achievable base plan avoided revenue requirements shall be determined per Attachment J, Section VII.A or Section VII.B, respectively. 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.

THIRD-PARTY FACILITIES

For third-party facilities listed in Table 3 and Table 5, the Customer is responsible for funding the necessary upgrades of these facilities per Section 21.1 of SPP's OATT. In this AFS, third-party facilities were identified. Total E&C cost estimates for required third-party facility upgrades are applicable. SPP will undertake reasonable efforts to assist the 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 SPP 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 SPP prior to tendering of a Transmission Service Agreement. These facilities also include those owned by members of SPP who have not placed their facilities under SPP's OATT. Upgrades on the Southwestern Power Administration (SWPA) 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 with the applicable Transmission Providers for study of third party facilities for service that sinks outside the SPP footprint.

STUDY METHODOLOGY

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 Standards 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 monitored elements include all SPP control area branches, ties, and buses 69 kV and above, and all first tier non-SPP control area branches and ties 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. 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 the following 2019 Integrated Transmission Planning (ITP) models, used in the 2019 ITP Assessment, to study the aggregate transfers over a variety of requested service periods and to determine the impact of the requested service on the transmission system:

- 2019 Winter
- 2021 Light Load, Summer, and Winter
- 2024 Light Load, Summer, and Winter
- 2029 Light Load, Summer, and Winter

The Summer Peak models apply to June through September, the Winter Peak models apply to December through March, and the Light Load models apply to April and May.

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. Base Reliability model scenarios were utilized. Base Reliability includes projected usage of transmission included in the SPP 2019 ITP Cases.

TRANSMISSION REQUEST MODELING

NITS requests are modeled as Generation to Load transfers in addition to Generation to Generation transfers. NITS requests are modeled as Generation to Load transfers in addition to Generation to Generation because the requested NITS is a request to serve network load with the new designated network resource, and the impacts on Transmission System are determined accordingly. PTP 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. TDF cutoffs (SPP and 1st-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.

CURTAILMENT 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 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 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.

SPP determined potential relief pairs to relieve the incremental MW impact on limiting facilities. 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 the Siemens power flow analysis tool, Managing and Utilizing System Transmission (MUST). Relief pairs from the generation shift factors for the incremental and decremental units with a TDF greater than 3% 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. 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 AFS 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.

STUDY RESULTS

STUDY ANALYSIS RESULTS

Tables 1 through 7 contain the AFS steady-state analysis results.

TABLE 1

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, the season of first impact, and indicates which requests, if any, had parameters that were exceeded.

TABLE 2

Table 2 identifies total E&C cost allocated to each 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), PTP base rate charge, total revenue requirements for assigned upgrades with consideration of potential base plan funding, final total cost allocation to the Customer, and directly assigned upgrade cost to the Customer. In addition, Table 2 identifies any SWPA upgrade costs that require prepayment in addition to other allocated costs.

TABLE 3

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

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

TABLE 5

Table 5 lists identified third-party constrained facilities.

TABLE 6

Table 6 is reserved.

TABLE 7

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

BASE PLAN UPGRADES

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's Point of Delivery (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.

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.

CONCLUSION

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.

SPP will tender an "Appendix 1 – Adjustment" form on September 9, 2019. This will open a 5 business day window for Customer response. To remain in the ATSS, SPP must receive from the Customer by September 16, 2019, the updated and signed AFS – Appendix 1 – Update form. The AFS – Appendix 1 – Update will indicate the parameters that were not met and need to be adjusted by the Customer. If the Customer does not increase the exceeded parameter or does not respond within five Business Days, the request will be removed from study. There is no action required on OASIS by the Customer.

APPENDIX A

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:
  - X 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: 3 MW
- Excld 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:
  - X 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 redispatch (Parameter)	Deferred Stop Date without interim redispatch	Start Date with interim redispatch	Stop Date with interim redispatch	[5]One or More Study Parameters Exceeded
AEPM	AG1-2019-001	88844850	CSWS	EES	181	1/1/2020	1/1/2025	1/1/2020	1/1/2025	1/1/2020	1/1/2025	YES
APM	AG1-2019-002	89182016	X	SPA	10	1/1/2020	1/1/2025	1/1/2020	1/1/2025	Note 4	Note 4	YES
APM	AG1-2019-003	89183931	X	OKGE	17	1/1/2020	1/1/2025	1/1/2020	1/1/2025	Note 4	Note 4	YES
APM	AG1-2019-004	89183944	X	CSWS	58	1/1/2020	1/1/2025	1/1/2020	1/1/2025	Note 4	Note 4	YES
BEPM	AG1-2019-005	88489552	WAUE	WAUE	45	10/1/2023	10/1/2035	10/1/2023	10/1/2035	Note 4	Note 4	NO
BEPM	AG1-2019-006	88512339	WAUE	WAUE	140	10/1/2023	10/1/2035	10/1/2023	10/1/2035	Note 4	Note 4	NO
BRPS	AG1-2019-007	89203861	OKGE	NPPD	20	6/1/2021	6/1/2026	6/1/2021	6/1/2026	6/1/2021	6/1/2026	YES
BRPS	AG1-2019-008	89204005	WAUE	NPPD	1	1/1/2020	1/1/2049	1/1/2020	1/1/2049	1/1/2020	1/1/2049	NO
EDE	AG1-2019-009	89219628	EDE	EDE	150	7/1/2020	7/1/2040	7/1/2020	7/1/2040	7/1/2020	7/1/2040	NO
EDE	AG1-2019-010	89219810	X	EDE	301	11/1/2020	11/1/2040	12/1/2022	12/1/2042	12/1/2021	12/1/2041	YES
EDE	AG1-2019-011	89220085	EDE	EDE	150	10/1/2020	10/1/2040	10/1/2020	10/1/2040	10/1/2020	10/1/2040	NO
ETEC	AG1-2019-012	89073059	OKGE	CSWS	23	6/1/2020	10/1/2040	6/1/2020	10/1/2040	6/1/2020	10/1/2040	NO
ETEC	AG1-2019-013	89073070	OKGE	CSWS	76	6/1/2020	10/1/2040	6/1/2020	10/1/2040	6/1/2020	10/1/2040	NO
INDP	AG1-2019-014	89183980	CSWS	KCPL	60	6/1/2020	6/1/2030	6/1/2020	6/1/2030	6/1/2020	6/1/2030	NO
KMEA	AG1-2019-015	89210890	GRDA	SECI	9	1/1/2021	1/1/2026	1/1/2021	1/1/2026	1/1/2021	1/1/2026	NO
MCPI	AG1-2019-016	88109856	WFEC	ERCOTN	100	7/1/2021	9/1/2022	7/1/2021	9/1/2022	7/1/2021	9/1/2022	NO
MCPI	AG1-2019-017	88109857	WFEC	ERCOTN	120	7/1/2021	9/1/2022	7/1/2021	9/1/2022	7/1/2021	9/1/2022	NO
MCPI	AG1-2019-018	88109858	CSWS	ERCOTE	100	7/1/2021	9/1/2022	12/1/2021	2/1/2023	12/1/2021	2/1/2023	YES
MCPI	AG1-2019-019	88109859	CSWS	ERCOTE	100	7/1/2021	9/1/2022	12/1/2021	2/1/2023	12/1/2021	2/1/2023	YES
MCPI	AG1-2019-020	88109862	CSWS	ERCOTE	50	7/1/2021	9/1/2022	7/1/2021	9/1/2022	7/1/2021	9/1/2022	YES
MCPI	AG1-2019-021	88109863	CSWS	ERCOTE	50	7/1/2021	9/1/2022	7/1/2021	9/1/2022	7/1/2021	9/1/2022	YES
MCPI	AG1-2019-022	88109864	CSWS	ERCOTE	50	7/1/2021	9/1/2022	7/1/2021	9/1/2022	7/1/2021	9/1/2022	YES
MCPI	AG1-2019-023	88109865	CSWS	ERCOTE	50	7/1/2021	9/1/2022	12/1/2021	2/1/2023	12/1/2021	2/1/2023	YES
MCPI	AG1-2019-024	88109866	CSWS	ERCOTE	100	7/1/2021	9/1/2022	12/1/2021	2/1/2023	12/1/2021	2/1/2023	YES
MCPI	AG1-2019-025	88109871	CSWS	ERCOTE	50	7/1/2021	9/1/2022	12/1/2021	2/1/2023	12/1/2021	2/1/2023	YES
OGE	AG1-2019-026	89175798	OKGE	OKGE	320	12/1/2019	12/1/2040	12/1/2019	12/1/2040	12/1/2019	12/1/2040	NO
OPPM	AG1-2019-027	88405091	OPPD	OPPD	150	6/1/2020	6/1/2022	6/1/2020	6/1/2022	6/1/2020	6/1/2022	NO
SPRM	AG1-2019-028	89227031	SPA	SPRM	50	4/1/2020	4/1/2050	12/1/2021	12/1/2051	12/1/2021	12/1/2051	YES
SPSM	AG1-2019-029	89170351	SPS	SPS	150	12/1/2019	12/1/2048	12/1/2019	12/1/2048	Note 4	Note 4	YES
SSCN	AG1-2019-030	89162227	OKGE	NPPD	8	1/1/2022	1/1/2031	1/1/2022	1/1/2031	Note 4	Note 4	YES
SSCN	AG1-2019-031	89162887	LES	NPPD	13	1/1/2020	1/1/2025	1/1/2020	1/1/2025	1/1/2020	1/1/2025	NO
TNSK	AG1-2019-032	88109881	CSWS	ERCOTE	50	7/1/2020	9/1/2021	6/1/2023	8/1/2024	6/1/2023	8/1/2024	YES
TNSK	AG1-2019-033	88109886	CSWS	ERCOTE	50	7/1/2021	9/1/2022	6/1/2023	8/1/2024	6/1/2023	8/1/2024	YES
TNSK	AG1-2019-034	88109895	CSWS	ERCOTE	50	7/1/2020	9/1/2021	6/1/2023	8/1/2024	6/1/2023	8/1/2024	YES
TNSK	AG1-2019-035	88109896	CSWS	ERCOTE	50	7/1/2020	9/1/2021	6/1/2023	8/1/2024	6/1/2023	8/1/2024	YES
TNSK	AG1-2019-036	88109897	CSWS	ERCOTE	50	7/1/2020	9/1/2021	6/1/2023	8/1/2024	6/1/2023	8/1/2024	YES
WFEC	AG1-2019-037	89038173	OKGE	WFEC	250	12/1/2019	5/1/2049	12/1/2019	5/1/2049	Note 4	Note 4	YES
WRGS	AG1-2019-038	89210410	WR	WR	125	1/1/2020	1/1/2025	1/1/2020	1/1/2025	1/1/2020	1/1/2025	YES
WRGS	AG1-2019-039	89210446	WR	WR	35	1/1/2020	1/1/2025	1/1/2020	1/1/2025	1/1/2020	1/1/2025	YES
WRGS	AG1-2019-040	89217003	SECI	WR	80	1/1/2020	1/1/2025	1/1/2020	1/1/2025	1/1/2020	1/1/2025	YES
WRGS	AG1-2019-041	89217294	WR	WR	6	1/1/2020	1/1/2025	1/1/2020	1/1/2025	1/1/2020	1/1/2025	YES
					3448							

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

Note 2: Start dates with and without redispatch 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

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

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

Note 4: Transmission customer did not select “remain in the study using interim redispatch” option.
Note 5: Request paramaters have been exceeded.

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	[1]Letter of Credit Amount Required (Parameter)	[2]Potential Base Plan Engineering and Construction Funding Allowable	Notes	[4]Additional Engineering and Construction Cost for 3rd Party Upgrades (Parameter)	[3]Total Revenue Requirements for Assigned Service Upgrades Over Term of Reservation NOT COVERED by Base Plan Funding	[3,5]Total Revenue Requirements for Assigned Service Upgrades Over Term of Reservation COVERED by Base Plan Funding	[6,7]Total Gross CPOs for Creditable Upgrades Over Reservation Period NOT COVERED by Base Plan Funding	[5,6,7]Total Gross CPOs for Creditable Upgrades Over Reservation Period COVERED by Base Plan Funding	[4,9]Point-to-Point Base Rate Available to Offset Revenue Requirements Over Reservation Period	[4]Total Cost of Reservation Assignable to Customer Contingent Upon Base Plan Funding	Directly Assigned Upgrade Cost (DAUC) (Parameter)
AEPM	AG1-2019-001	88844850	$360,853	$360,853	$0		$0	$0	$0	$748,888	$0	$0	$748,888	$360,853
APM	AG1-2019-002	89182016	$105,276	$105,276	$0		$0	$114,588	$0	$108,011	$0	$0	$222,599	$105,276
APM	AG1-2019-003	89183931	$152,189	$152,189	$0		$0	$148,915	$0	$200,985	$0	$0	$349,900	$152,189
APM	AG1-2019-004	89183944	$664,491	$664,491	$0		$0	$537,853	$0	$843,632	$0	$0	$1,381,485	$664,491
BEPM	AG1-2019-005	88489552	$0	$0	$0		$0	$0	$0	$0	$0	$0	Schedule 9 & 11 Charges	$0
BEPM	AG1-2019-006	88512339	$126,762	$0	$126,762		$0	$0	$0	$0	$210,586	$0	Schedule 9 & 11 Charges	$0
BRPS	AG1-2019-007	89203861	$52,964	$52,964	$0		$0	$0	$0	$226,761	$0	$0	$226,761	$52,964
BRPS	AG1-2019-008	89204005	$625	$0	$625		$0	$0	$0	$0	$1,162	$0	Schedule 9 & 11 Charges	$0
EDE	AG1-2019-009	89219628	$4,196,391	$4,196,391	$0		$0	$12,163,030	$0	$0	$0	$0	$12,163,030	$4,196,391
EDE	AG1-2019-010	89219810	$23,161,212	$23,161,212	$0		$13,147,045	$75,563,760	$0	$591,137	$0	$0	$76,154,896	$23,161,212
EDE	AG1-2019-011	89220085	$4,334,524	$4,334,524	$0		$0	$12,834,828	$0	$0	$0	$0	$12,834,830	$4,334,524
ETEC	AG1-2019-012	89073059	$56,283	$0	$56,283		$0	$0	$0	$0	$388,755	$0	Schedule 9 & 11 Charges	$0
ETEC	AG1-2019-013	89073070	$185,978	$0	$185,978		$0	$0	$0	$0	$1,284,567	$0	Schedule 9 & 11 Charges	$0
INDP	AG1-2019-014	89183980	$95,407	$95,407	$0		$0	$0	$0	$633,920	$0	$0	$633,920	$95,407
KMEA	AG1-2019-015	89210890	$28,441	$0	$28,441		$0	$0	$0	$0	$150,246	$0	Schedule 9 & 11 Charges	$0
MCPI	AG1-2019-016	88109856	$0	$0	$0		$0	$0	$0	$124,296	$0	$6,598,036	$6,598,036	$0
MCPI	AG1-2019-017	88109857	$0	$0	$0		$0	$0	$0	$124,296	$0	$7,917,643	$7,917,643	$0
MCPI	AG1-2019-018	88109858	$0	$0	$0		$1,854,069	$0	$0	$0	$0	$6,598,036	$6,598,036	$0
MCPI	AG1-2019-019	88109859	$0	$0	$0		$1,854,069	$0	$0	$0	$0	$6,598,036	$6,598,036	$0
MCPI	AG1-2019-020	88109862	$0	$0	$0		$1,005,249	$0	$0	$0	$0	$3,299,018	$3,299,018	$0
MCPI	AG1-2019-021	88109863	$0	$0	$0		$1,005,249	$0	$0	$0	$0	$3,299,018	$3,299,018	$0
MCPI	AG1-2019-022	88109864	$0	$0	$0		$1,005,249	$0	$0	$0	$0	$3,299,018	$3,299,018	$0
MCPI	AG1-2019-023	88109865	$0	$0	$0		$927,035	$0	$0	$0	$0	$3,299,018	$3,299,018	$0
MCPI	AG1-2019-024	88109866	$0	$0	$0		$1,854,069	$0	$0	$0	$0	$6,598,036	$6,598,036	$0
MCPI	AG1-2019-025	88109871	$0	$0	$0		$927,035	$0	$0	$0	$0	$3,299,018	$3,299,018	$0
OGE	AG1-2019-026	89175798	$1,007,044	$0	$1,007,044		$0	$0	$0	$0	$5,754,667	$0	Schedule 9 & 11 Charges	$0
OPPM	AG1-2019-027	88405091	$0	$0	$0		$0	$0	$0	$0	$0	$0	Schedule 9 & 11 Charges	$0
SPRM	AG1-2019-028	89227031	$327,989	$0	$327,989		$3,535,254	$0	$1,420,510	$0	$0	$0	Schedule 9 & 11 Charges	$0
SPSM	AG1-2019-029	89170351	$1,160,989	$1,159,605	$1,384		$0	$830,094	$0	$1,433,454	$2,520	$0	$2,263,548	$1,159,605
SSCN	AG1-2019-030	89162227	$275,229	$7,846	$267,383		$0	$0	$0	$36,947	$448,963	$0	$36,947	$7,846
SSCN	AG1-2019-031	89162887	$2,261	$0	$2,261		$0	$0	$0	$0	$2,728	$0	Schedule 9 & 11 Charges	$0
TNSK	AG1-2019-032	88109881	$20,000,000	$20,000,000	$0	10	$1,005,249	$40,000,000	$0	$0	$0	$3,299,018	$40,000,000	$20,000,000
TNSK	AG1-2019-033	88109886	$20,000,000	$20,000,000	$0	10	$1,005,249	$40,000,000	$0	$0	$0	$3,299,018	$40,000,000	$20,000,000
TNSK	AG1-2019-034	88109895	$20,000,000	$20,000,000	$0	10	$1,005,249	$40,000,000	$0	$0	$0	$3,299,018	$40,000,000	$20,000,000
TNSK	AG1-2019-035	88109896	$20,000,000	$20,000,000	$0	10	$1,005,249	$40,000,000	$0	$0	$0	$3,299,018	$40,000,000	$20,000,000
TNSK	AG1-2019-036	88109897	$20,000,000	$20,000,000	$0	10	$1,005,249	$40,000,000	$0	$0	$0	$3,299,018	$40,000,000	$20,000,000
WFEC	AG1-2019-037	89038173	$1,773,443	$1,688,318	$85,125		$0	$0	$0	$10,043,814	$157,374	$0	$10,043,814	$1,688,318
WRGS	AG1-2019-038	89210410	$17,018,797	$16,954,873	$63,924		$0	$0	$0	$21,278,410	$86,650	$0	$21,278,410	$16,954,873
WRGS	AG1-2019-039	89210446	$1,299,621	$1,270,839	$28,782		$0	$0	$0	$1,709,328	$38,625	$0	$1,709,328	$1,270,839
WRGS	AG1-2019-040	89217003	$1,184,115	$1,137,189	$46,926		$0	$0	$0	$2,114,498	$64,009	$0	$2,114,498	$1,137,189
WRGS	AG1-2019-041	89217294	$12,282,367	$12,278,390	$3,977		$0	$12,443,134	$0	$27,192	$5,425	$0	$12,470,326	$12,278,390
Grand Total			**$169,853,251**		**$2,232,886**		**$32,140,565**	**$314,636,203**	**$1,420,510**	**$40,245,568**	**$8,596,278**			**$167,620,365**

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

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 directly assigned upgrade revenue requirements **AND** Schedules 1, 1A, 2, 9, 11, & 12 charges. Network cost amounts populated in this column are reduced by offsets (if available) from base plan funding, which is determined using 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: RR for creditable upgrades.
Note 7: CPOs for creditable upgrades may be calculated based on estimated upgrade cost and are subject to change.
Note 8: CPOs for creditable upgrade(s) may be required based on completion of GI review.
Note 9: Point-To-Point Base Rate used to offset Revenue Requirements are calculated using the following available rate(s): Schedule 7, Schedule 11 Base Plan Zonal, Schedule 11 Base Plan Regional. The ancillary rates (Schedules 1, 1A, 2, and 12) are not included in the Point-to-Point Base Rate. These rate(s) are subject to change.
Note 10: RR may increase or decrease due to estimated assumptions and is subject to change.

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

Customer	**Study Number**
AEPM	AG1-2019-001

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**
AEPM	88844850	CSWS	EES	181	1/1/2020	1/1/2025	1/1/2020	1/1/2025	$ -	$ -	$ 360,853	$ 748,888
									$ -	$ -	$ 360,853	$ 748,888

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88844850	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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	Allocated E & C Cost	Total Revenue Requirements
88844850	Gracemont 138kV line terminal addition	10/15/2011	10/15/2011			$ 35,030	$ 49,756
	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ 83,838	$ 332,056
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ 16,256	$ 56,669
	WASHITA - GRACEMONT 138 KV CKT 2	10/12/2012	10/12/2012			$ 225,728	$ 310,406
					Total	$ 360,853	$ 748,888

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
APM	AG1-2019-002

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**
APM	89182016	X	SPA	10	1/1/2020	1/1/2025	1/1/2020	1/1/2025	$ -	$ -	$ 105,276	$ 222,599
									$ -	$ -	$ 105,276	$ 222,599

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
89182016	Neosho - Riverton 161kV Line Rebuild (EMDE)	10/1/2021	12/1/2022			$ -	$ 61,071	$ 61,071	$ 28,410,000	$ 98,236
	Neosho - Riverton 161kV Line Rebuild (WERE)	10/1/2021	12/1/2022			$ -	$ 8,698	$ 8,698	$ 4,046,161	$ 16,352
					Total	$ -	$ 69,769	$ 69,769	$ 32,456,161	$ 114,588

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89182016	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ -	$ 2,744	$ 2,744	$ 10,869
	Kingfisher Co Tap - Mathewson 345kV CKT 1	3/1/2018	3/1/2018			$ -	$ 12,722	$ 12,722	$ 15,332
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 944	$ 944	$ 7,253
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ -	$ 14,039	$ 14,039	$ 67,225
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ -	$ 532	$ 532	$ 1,855
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ -	$ 4,525	$ 4,525	$ 5,477
					Total	$ -	$ 35,507	$ 35,507	$ 108,011

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	Study Number
APM	AG1-2019-003

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
APM	89183931	X	OKGE	17	1/1/2020	1/1/2025	1/1/2020	1/1/2025	$ -	$ -	$ 152,189	$ 349,900
									$ -	$ -	$ 152,189	$ 349,900

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
89183931	Neosho - Riverton 161kV Line Rebuild (EMDE)	10/1/2021	12/1/2022			$ -	$ 79,367	$ 79,367	$ 28,410,000	$ 127,666
	Neosho - Riverton 161kV Line Rebuild (WERE)	10/1/2021	12/1/2022			$ -	$ 11,303	$ 11,303	$ 4,046,161	$ 21,249
					Total	$ -	$ 90,670	$ 90,670	$ 32,456,161	$ 148,915

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89183931	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ -	$ 7,270	$ 7,270	$ 28,795
	Kingfisher Co Tap - Mathewson 345kV CKT 1	3/1/2018	3/1/2018			$ -	$ 18,055	$ 18,055	$ 21,759
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 2,523	$ 2,523	$ 19,385
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ -	$ 24,339	$ 24,339	$ 116,544
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ -	$ 1,410	$ 1,410	$ 4,914
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ -	$ 7,922	$ 7,922	$ 9,589
					Total	$ -	$ 61,519	$ 61,519	$ 200,985

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
APM	AG1-2019-004

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**
APM	89183944	X	CSWS	58	1/1/2020	1/1/2025	1/1/2020	1/1/2025	$ -	$ -	$ 664,491	$ 1,381,485
									$ -	$ -	$ 664,491	$ 1,381,485

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
89183944	Neosho - Riverton 161kV Line Rebuild (EMDE)	10/1/2021	12/1/2022			$ -	$ 286,656	$ 286,656	$ 28,410,000	$ 461,102
	Neosho - Riverton 161kV Line Rebuild (WERE)	10/1/2021	12/1/2022			$ -	$ 40,826	$ 40,826	$ 4,046,161	$ 76,752
					Total	$ -	$ 327,482	$ 327,482	$ 32,456,161	$ 537,853

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89183944	DEARING 138KV	6/30/2013	6/30/2013			$ -	$ 136	$ 136	$ 478
	FAIRFAX - PAWNEE 138KV CKT 2	10/14/2014	10/14/2014			$ -	$ 56,609	$ 56,609	$ 72,965
	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ -	$ 27,057	$ 27,057	$ 107,165
	Kingfisher Co Tap - Mathewson 345kV CKT 1	3/1/2018	3/1/2018			$ -	$ 61,565	$ 61,565	$ 74,196
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 8,979	$ 8,979	$ 68,977
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ -	$ 78,259	$ 78,259	$ 374,734
	Osage - Shidler 138kV	7/1/2014	7/1/2014			$ -	$ 4,435	$ 4,435	$ 5,762
	Pawnee 138 kV	10/3/2014	10/3/2014			$ -	$ 16,488	$ 16,488	$ 21,252
	Shidler 138 kV	4/30/2014	4/30/2014			$ -	$ 53,309	$ 53,309	$ 69,645
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ -	$ 5,246	$ 5,246	$ 18,289
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ -	$ 24,925	$ 24,925	$ 30,169
					Total	$ -	$ 337,009	$ 337,009	$ 843,632

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
BEPM	AG1-2019-005

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**
BEPM	88489552	WAUE	WAUE	45	10/1/2023	10/1/2035	10/1/2023	10/1/2035	$ -	$ -	$ -	$ -
									$ -	$ -	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88489552	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
BEPM	AG1-2019-006

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**
BEPM	88512339	WAUE	WAUE	140	10/1/2023	10/1/2035	10/1/2023	10/1/2035	$ 126,762	$ -	$ 126,762	$ 210,586
									$ 126,762	$ -	$ 126,762	$ 210,586

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88512339	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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	Allocated E & C Cost	Total Revenue Requirements
88512339	Fort Randall - Madison County 230kV Ckt 1	12/23/2013	12/23/2013			$ 126,762	$ 210,586
					Total	$ 126,762	$ 210,586

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
BRPS	AG1-2019-007

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**
BRPS	89203861	OKGE	NPPD	20	6/1/2021	6/1/2026	6/1/2021	6/1/2026	$ -	$ -	$ 52,964	$ 226,761
									$ -	$ -	$ 52,964	$ 226,761

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
89203861	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89203861	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ -	$ 5,300	$ 5,300	$ 23,701
	Kingfisher Co Tap - Mathewson 345kV CKT 1	3/1/2018	3/1/2018			$ -	$ 13,771	$ 13,771	$ 17,620
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 3,172	$ 3,172	$ 27,606
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ -	$ 28,111	$ 28,111	$ 151,901
	Twin Church - Dixon County 230kV Line Upgrade	11/1/2018	11/1/2018			$ -	$ 1,574	$ 1,574	$ 1,885
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ -	$ 1,035	$ 1,035	$ 4,048
					Total	$ -	$ 52,964	$ 52,964	$ 226,761

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
BRPS	AG1-2019-008

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**
BRPS	89204005	WAUE	NPPD	1	1/1/2020	1/1/2049	1/1/2020	1/1/2049	$ 625	$ -	$ 625	$ 1,162
									$ 625	$ -	$ 625	$ 1,162

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
89204005	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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	Allocated E & C Cost	Total Revenue Requirements
89204005	Kelly - Madison County 230kV Ckt 1	11/1/2014	11/1/2014			$ 559	$ 1,051
	Twin Church - Dixon County 230kV Line Upgrade	11/1/2018	11/1/2018			$ 67	$ 111
					Total	$ 625	$ 1,162

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	Study Number
EDE	AG1-2019-009

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
EDE	89219628	EDE	EDE	150	7/1/2020	7/1/2040	7/1/2020	7/1/2040	$ -	$ -	$ 4,196,391	$ 12,163,031
									$ -	$ -	$ 4,196,391	$ 12,163,031

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
89219628	Neosho - Riverton 161kV Line Rebuild (EMDE)	10/1/2021	12/1/2022			$ -	$ 3,673,246	$ 3,673,246	$ 28,410,000	$ 10,543,787
	Neosho - Riverton 161kV Line Rebuild (WERE)	10/1/2021	12/1/2022			$ -	$ 523,145	$ 523,145	$ 4,046,161	$ 1,619,244
					Total	$ -	$ 4,196,391	$ 4,196,391	$ 32,456,161	$ 12,163,031

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

Customer	Study Number
EDE	AG1-2019-010

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
EDE	89219810	X	EDE	301	11/1/2020	11/1/2040	12/1/2022	12/1/2042	$ -	$ -	$ 23,161,212	$ 76,154,896
									$ -	$ -	$ 23,161,212	$ 76,154,896

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
89219810	Neosho - Riverton 161kV Line Rebuild (EMDE)	10/1/2021	12/1/2022		Yes	$ -	$ 20,228,401	$ 20,228,401	$ 28,410,000	$ 65,679,488
	Neosho - Riverton 161kV Line Rebuild (WERE)	10/1/2021	12/1/2022		Yes	$ -	$ 2,880,935	$ 2,880,935	$ 4,046,161	$ 9,884,271
					Total	$ -	$ 23,109,336	$ 23,109,336	$ 32,456,161	$ 75,563,759

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89219810	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 26,333	$ 26,333	$ 411,797
	SUB 110 - ORONOGO JCT. - SUB 452 - RIVERTON 161KV CKT 1	6/1/2011	6/1/2011			$ -	$ 25,543	$ 25,543	$ 179,340
					Total	$ -	$ 51,876	$ 51,876	$ 591,137

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
89219810	Everton - St Joe 161kV Rebuild	6/1/2021	12/1/2021		No	$ 10,213,780	$ 12,960,277
	Hilltop - St Joe 161 kV Rebuild	6/1/2021	12/1/2021		No	$ 2,933,265	$ 3,722,024
					Total	$ 13,147,045	$ 16,682,300

*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.

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
EDE	AG1-2019-011

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**
EDE	89220085	EDE	EDE	150	10/1/2020	10/1/2040	10/1/2020	10/1/2040	$ -	$ -	$ 4,334,524	$ 12,834,828
									$ -	$ -	$ 4,334,524	$ 12,834,828

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
89220085	Neosho - Riverton 161kV Line Rebuild (EMDE)	10/1/2021	12/1/2022			$ -	$ 3,794,159	$ 3,794,159	$ 28,410,000	$ 11,131,385
	Neosho - Riverton 161kV Line Rebuild (WERE)	10/1/2021	12/1/2022			$ -	$ 540,365	$ 540,365	$ 4,046,161	$ 1,703,443
					Total	$ -	$ 4,334,524	$ 4,334,524	$ 32,456,161	$ 12,834,828

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

Customer	**Study Number**
ETEC	AG1-2019-012

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	89073059	OKGE	CSWS	23	6/1/2020	10/1/2040	6/1/2020	10/1/2040	$ 56,283	$ -	$ 56,283	$ 388,755
									$ 56,283	$ -	$ 56,283	$ 388,755

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
89073059	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89073059	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ 39,830	$ -	$ 39,830	$ 280,824
	HUGO 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012			$ 8,716	$ -	$ 8,716	$ 61,015
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ 7,738	$ -	$ 7,738	$ 46,916
					Total	$ 56,283	$ -	$ 56,283	$ 388,755

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
ETEC	AG1-2019-013

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	89073070	OKGE	CSWS	76	6/1/2020	10/1/2040	6/1/2020	10/1/2040	$ 185,978	$ -	$ 185,978	$ 1,284,567
									$ 185,978	$ -	$ 185,978	$ 1,284,567

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
89073070	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89073070	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ 131,611	$ -	$ 131,611	$ 927,939
	HUGO 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012			$ 28,799	$ -	$ 28,799	$ 201,603
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ 25,569	$ -	$ 25,569	$ 155,025
					Total	$ 185,978	$ -	$ 185,978	$ 1,284,567

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	Study Number
INDP	AG1-2019-014

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
INDP	89183980	CSWS	KCPL	60	6/1/2020	6/1/2030	6/1/2020	6/1/2030	$ -	$ -	$ 95,407	$ 633,920
									$ -	$ -	$ 95,407	$ 633,920

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
89183980	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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	Allocated E & C Cost	Total Revenue Requirements
89183980	COFFEYVILLE TAP - DEARING 138KV CKT 1 (WR) #2	6/9/2010	6/9/2010			$ 18	$ 102
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ 16,555	$ 160,492
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 78,833	$ 473,327
					Total	$ 95,407	$ 633,920

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
KMEA	AG1-2019-015

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**
KMEA	89210890	GRDA	SECI	9	1/1/2021	1/1/2026	1/1/2021	1/1/2026	$ 28,441	$ -	$ 28,441	$ 150,246
									$ 28,441	$ -	$ 28,441	$ 150,246

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
89210890	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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	Allocated E & C Cost	Total Revenue Requirements
89210890	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ 793	$ 6,650
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 27,114	$ 141,396
	SUB 110 - ORONOGO JCT. - SUB 452 - RIVERTON 161KV CKT 1	6/1/2011	6/1/2011			$ 534	$ 2,200
					Total	$ 28,441	$ 150,246

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
MCPI	AG1-2019-016

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**
MCPI	88109856	WFEC	ERCOTN	100	7/1/2021	9/1/2022	7/1/2021	9/1/2022	$ -	$ 6,598,036	$ 124,296	$ 124,296
									$ -	$ 6,598,036	$ 124,296	$ 124,296

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109856	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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	Allocated E & C Cost	Total Revenue Requirements
88109856	POWER SYSTEM STABILIZERS IN SPS	11/30/2014	11/30/2014			$ 124,296	$ 124,296
					Total	$ 124,296	$ 124,296

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
MCPI	AG1-2019-017

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**
MCPI	88109857	WFEC	ERCOTN	120	7/1/2021	9/1/2022	7/1/2021	9/1/2022	$ -	$ 7,917,643	$ 124,296	$ 124,296
									$ -	$ 7,917,643	$ 124,296	$ 124,296

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109857	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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	Allocated E & C Cost	Total Revenue Requirements
88109857	POWER SYSTEM STABILIZERS IN SPS	11/30/2014	11/30/2014			$ 124,296	$ 124,296
					Total	$ 124,296	$ 124,296

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
MCPI	AG1-2019-018

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**
MCPI	88109858	CSWS	ERCOTE	100	7/1/2021	9/1/2022	12/1/2021	2/1/2023	$ -	$ 6,598,036	$ -	$ -
									$ -	$ 6,598,036	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109858	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109858	Rebuild Eastman Gen - North Texas Eastman ckt 1	7/1/2021	12/1/2021		No	$ 149,188	$ 596,751
	Rebuild Eastman Gen - North Texas Eastman ckt 2	7/1/2021	12/1/2021		No	$ 149,188	$ 596,751
	EASTMAN 138/13.8KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 777,847	$ 3,111,386
	EASTMAN 138/13.8KV TRANSFORMER #3	6/1/2021	6/1/2021		No	$ 777,847	$ 3,111,386
					Total	$ 1,854,069	$ 7,416,274

*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.

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

Customer	Study Number
MCPI	AG1-2019-019

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
MCPI	88109859	CSWS	ERCOTE	100	7/1/2021	9/1/2022	12/1/2021	2/1/2023	$ -	$ 6,598,036	$ -	$ -
									$ -	$ 6,598,036	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109859	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109859	Rebuild Eastman Gen - North Texas Eastman ckt 1	7/1/2021	12/1/2021		No	$ 149,188	$ 596,751
	Rebuild Eastman Gen - North Texas Eastman ckt 2	7/1/2021	12/1/2021		No	$ 149,188	$ 596,751
	EASTMAN 138/13.8KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 777,847	$ 3,111,386
	EASTMAN 138/13.8KV TRANSFORMER #3	6/1/2021	6/1/2021		No	$ 777,847	$ 3,111,386
					Total	$ 1,854,069	$ 7,416,274

*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.

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

Customer	**Study Number**
MCPI	AG1-2019-020

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**
MCPI	88109862	CSWS	ERCOTE	50	7/1/2021	9/1/2022	7/1/2021	9/1/2022	$ -	$ 3,299,018	$ -	$ -
									$ -	$ 3,299,018	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109862	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109862	WELSH 345/18.0KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 1,005,249	$ 8,041,990
					Total	$ 1,005,249	$ 8,041,990

*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.

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

Customer	Study Number
MCPI	AG1-2019-021

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
MCPI	88109863	CSWS	ERCOTE	50	7/1/2021	9/1/2022	7/1/2021	9/1/2022	$ -	$ 3,299,018	$ -	$ -
									$ -	$ 3,299,018	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109863	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109862	WELSH 345/18.0KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 1,005,249	$ 8,041,990
					Total	$ 1,005,249	$ 8,041,990

*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.

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

Customer	**Study Number**
MCPI	AG1-2019-022

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**
MCPI	88109864	CSWS	ERCOTE	50	7/1/2021	9/1/2022	7/1/2021	9/1/2022	$ -	$ 3,299,018	$ -	$ -
									$ -	$ 3,299,018	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109864	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109862	WELSH 345/18.0KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 1,005,249	$ 8,041,990
					Total	$ 1,005,249	$ 8,041,990

*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.

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

Customer	**Study Number**
MCPI	AG1-2019-023

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**
MCPI	88109865	CSWS	ERCOTE	50	7/1/2021	9/1/2022	12/1/2021	2/1/2023	$ -	$ 3,299,018	$ -	$ -
									$ -	$ 3,299,018	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109865	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109865	Rebuild Eastman Gen - North Texas Eastman ckt 1	7/1/2021	12/1/2021		No	$ 74,594	$ 596,751
	Rebuild Eastman Gen - North Texas Eastman ckt 2	7/1/2021	12/1/2021		No	$ 74,594	$ 596,751
	EASTMAN 138/13.8KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 388,923	$ 3,111,386
	EASTMAN 138/13.8KV TRANSFORMER #3	6/1/2021	6/1/2021		No	$ 388,923	$ 3,111,386
					Total	$ 927,035	$ 7,416,274

*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.

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

Customer	**Study Number**
MCPI	AG1-2019-024

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**
MCPI	88109866	CSWS	ERCOTE	100	7/1/2021	9/1/2022	12/1/2021	2/1/2023	$ -	$ 6,598,036	$ -	$ -
									$ -	$ 6,598,036	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109866	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109866	Rebuild Eastman Gen - North Texas Eastman ckt 1	7/1/2021	12/1/2021		No	$ 149,188	$ 596,751
	Rebuild Eastman Gen - North Texas Eastman ckt 2	7/1/2021	12/1/2021		No	$ 149,188	$ 596,751
	EASTMAN 138/13.8KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 777,847	$ 3,111,386
	EASTMAN 138/13.8KV TRANSFORMER #3	6/1/2021	6/1/2021		No	$ 777,847	$ 3,111,386
					Total	$ 1,854,069	$ 7,416,274

*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.

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

Customer	**Study Number**
MCPI	AG1-2019-025

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**
MCPI	88109871	CSWS	ERCOTE	50	7/1/2021	9/1/2022	12/1/2021	2/1/2023	$ -	$ 3,299,018	$ -	$ -
									$ -	$ 3,299,018	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109871	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109871	Rebuild Eastman Gen - North Texas Eastman ckt 1	7/1/2021	12/1/2021		No	$ 74,594	$ 596,751
	Rebuild Eastman Gen - North Texas Eastman ckt 2	7/1/2021	12/1/2021		No	$ 74,594	$ 596,751
	EASTMAN 138/13.8KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 388,923	$ 3,111,386
	EASTMAN 138/13.8KV TRANSFORMER #3	6/1/2021	6/1/2021		No	$ 388,923	$ 3,111,386
					Total	$ 927,035	$ 7,416,274

*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.

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

Customer OGE
Study Number AG1-2019-026

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
OGE	89175798	OKGE	OKGE	320	12/1/2019	12/1/2040	12/1/2019	12/1/2040	$ 1,007,044	$ -	$ 1,007,044	$ 5,754,667
									$ 1,007,044	$ -	$ 1,007,044	$ 5,754,667

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
89175798	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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	Allocated E & C Cost	Total Revenue Requirements
89175798	EXPLORER GLENPOOL - RIVERSIDE STATION 138KV CKT 1 (AEP)	3/23/2009	3/23/2009			$ 39,942	$ 304,872
	BEELINE - EXPLORER GLENPOOL 138KV CKT 1	6/1/2009	6/1/2009			$ 15,002	$ 134,034
	EXPLORER GLENPOOL - RIVERSIDE STATION 138KV CKT 1 (OGE)	6/1/2009	6/1/2009			$ 30,643	$ 273,785
	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ 166,446	$ 1,147,674
	Kingfisher Co Tap - Mathewson 345kV CKT 1	3/1/2018	3/1/2018			$ 216,292	$ 353,246
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 378,081	$ 3,146,182
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ 32,260	$ 191,560
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ 128,379	$ 203,314
					Total	$ 1,007,044	$ 5,754,667

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
OPPM	AG1-2019-027

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**
OPPM	88405091	OPPD	OPPD	150	6/1/2020	6/1/2022	6/1/2020	6/1/2022	$ -	$ -	$ -	$ -
									$ -	$ -	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88405091	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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

Customer	**Study Number**
SPRM	AG1-2019-028

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**
SPRM	89227031	SPA	SPRM	50	4/1/2020	4/1/2050	12/1/2021	12/1/2051	$ 327,989	$ -	$ 327,989	$ 1,420,510
									$ 327,989	$ -	$ 327,989	$ 1,420,510

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
89227031	Neosho - Riverton 161kV Line Rebuild (EMDE)	10/1/2021	12/1/2022			$ 287,100	$ 28,410,000	$ 1,239,380
	Neosho - Riverton 161kV Line Rebuild (WERE)	10/1/2021	12/1/2022			$ 40,889	$ 4,046,161	$ 181,130
					Total	$ 327,989	$ 32,456,161	$ 1,420,510

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
89227031	Everton - St Joe 161kV Rebuild	6/1/2021	12/1/2021		No	$ 2,746,496	$ 12,960,277
	Hilltop - St Joe 161 kV Rebuild	6/1/2021	12/1/2021		No	$ 788,758	$ 3,722,024
					Total	$ 3,535,254	$ 16,682,300

*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.

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

Customer	**Study Number**
SPSM	AG1-2019-029

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**
SPSM	89170351	SPS	SPS	150	12/1/2019	12/1/2048	12/1/2019	12/1/2048	$ 1,384	$ -	$ 1,160,989	$ 2,266,067
									$ 1,384	$ -	$ 1,160,989	$ 2,266,067

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
89170351	Amoco Tap - Sundown Interchange 115 kV Terminal Upgrades	6/1/2028	6/1/2028			$ -	$ 358,281	$ 358,281	$ 358,281	$ 830,094
					Total	$ -	$ 358,281	$ 358,281	$ 358,281	$ 830,094

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89170351	PLANT X - TOLK 230KV REBUILD CIRCUIT #1	12/31/2017	12/31/2017			$ -	$ 118,281	$ 118,281	$ 211,587
	PLANT X - TOLK 230KV REBUILD CIRCUIT #2	12/31/2017	12/31/2017			$ -	$ 114,674	$ 114,674	$ 205,136
	POWER SYSTEM STABILIZERS IN SPS	11/30/2014	11/30/2014			$ 1,384	$ -	$ 1,384	$ 2,520
	TUCO INTERCHANGE 345/230KV CKT 1 REPLACEMENT	6/1/2018	6/1/2018			$ -	$ 568,369	$ 568,369	$ 1,016,731
					Total	$ 1,384	$ 801,324	$ 802,708	$ 1,435,973

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
SSCN	AG1-2019-030

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**
SSCN	89162227	OKGE	NPPD	8	1/1/2022	1/1/2031	1/1/2022	1/1/2031	$ 267,383	$ -	$ 275,229	$ 485,910
									$ 267,383	$ -	$ 275,229	$ 485,910

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
89162227	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89162227	Tap Woodring - Mathewson 345kV - Kingfisher Co (NU)	10/2/2017	10/2/2017			$ 214,477	$ -	$ 214,477	$ 302,684
	Fort Randall - Madison County 230kV Ckt 1	12/23/2013	12/23/2013			$ 4,976	$ 2,451	$ 7,427	$ 11,136
	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ 2,273	$ -	$ 2,273	$ 12,468
	Kingfisher Co Tap - Mathewson 345kV CKT 1	3/1/2018	3/1/2018			$ 33,279	$ -	$ 33,279	$ 47,299
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ 979	$ -	$ 979	$ 10,503
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 9,873	$ 4,863	$ 14,736	$ 97,597
	Twin Church - Dixon County 230kV Line Upgrade	11/1/2018	11/1/2018			$ 1,081	$ 533	$ 1,614	$ 2,108
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ 445	$ -	$ 445	$ 2,116
					Total	$ 267,383	$ 7,846	$ 275,229	$ 485,910

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
SSCN	AG1-2019-031

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**
SSCN	89162887	LES	NPPD	13	1/1/2020	1/1/2025	1/1/2020	1/1/2025	$ 2,261	$ -	$ 2,261	$ 2,728
									$ 2,261	$ -	$ 2,261	$ 2,728

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
89162887	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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	Allocated E & C Cost	Total Revenue Requirements
89162887	Gavins Point - Yankton Junction 115 kV	10/1/2020	10/1/2020			$ 944	$ 1,033
	Fort Randall - Madison County 230kV Ckt 1	12/23/2013	12/23/2013			$ 1,076	$ 1,421
	Twin Church - Dixon County 230kV Line Upgrade	11/1/2018	11/1/2018			$ 241	$ 274
					Total	$ 2,261	$ 2,728

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
TNSK	AG1-2019-032

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**
TNSK	88109881	CSWS	ERCOTE	50	7/1/2020	9/1/2021	6/1/2023	8/1/2024	$ -	$ 3,299,018	$ 20,000,000	$ 40,000,000
									$ -	$ 3,299,018	$ 20,000,000	$ 40,000,000

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109881	ERCOT EAST DC Tie Expansion	6/1/2021	6/1/2023			$ 20,000,000	$ 100,000,000	$ 40,000,000
					Total	$ 20,000,000	$ 100,000,000	$ 40,000,000

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109862	WELSH 345/18.0KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 1,005,249	$ 8,041,990
					Total	$ 1,005,249	$ 8,041,990

*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.

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

Customer	**Study Number**
TNSK	AG1-2019-033

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**
TNSK	88109886	CSWS	ERCOTE	50	7/1/2021	9/1/2022	6/1/2023	8/1/2024	$ -	$ 3,299,018	$ 20,000,000	$ 40,000,000
									$ -	$ 3,299,018	$ 20,000,000	$ 40,000,000

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109886	ERCOT EAST DC Tie Expansion	6/1/2021	6/1/2023			$ 20,000,000	$ 100,000,000	$ 40,000,000
					Total	$ 20,000,000	$ 100,000,000	$ 40,000,000

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109862	WELSH 345/18.0KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 1,005,249	$ 8,041,990
					Total	$ 1,005,249	$ 8,041,990

*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.

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

Customer	Study Number
TNSK	AG1-2019-034

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
TNSK	88109895	CSWS	ERCOTE	50	7/1/2020	9/1/2021	6/1/2023	8/1/2024	$ -	$ 3,299,018	$ 20,000,000	$ 40,000,000
									$ -	$ 3,299,018	$ 20,000,000	$ 40,000,000

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109895	ERCOT EAST DC Tie Expansion	6/1/2021	6/1/2023			$ 20,000,000	$ 100,000,000	$ 40,000,000
					Total	$ 20,000,000	$ 100,000,000	$ 40,000,000

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109862	WELSH 345/18.0KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 1,005,249	$ 8,041,990
					Total	$ 1,005,249	$ 8,041,990

*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.

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

Customer	**Study Number**
TNSK	AG1-2019-035

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**
TNSK	88109896	CSWS	ERCOTE	50	7/1/2020	9/1/2021	6/1/2023	8/1/2024	$ -	$ 3,299,018	$ 20,000,000	$ 40,000,000
									$ -	$ 3,299,018	$ 20,000,000	$ 40,000,000

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109896	ERCOT EAST DC Tie Expansion	6/1/2021	6/1/2023			$ 20,000,000	$ 100,000,000	$ 40,000,000
					Total	$ 20,000,000	$ 100,000,000	$ 40,000,000

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109862	WELSH 345/18.0KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 1,005,249	$ 8,041,990
					Total	$ 1,005,249	$ 8,041,990

*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.

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

Customer	**Study Number**
TNSK	AG1-2019-036

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**
TNSK	88109897	CSWS	ERCOTE	50	7/1/2020	9/1/2021	6/1/2023	8/1/2024	$ -	$ 3,299,018	$ 20,000,000	$ 40,000,000
									$ -	$ 3,299,018	$ 20,000,000	$ 40,000,000

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
88109897	ERCOT EAST DC Tie Expansion	6/1/2021	6/1/2023			$ 20,000,000	$ 100,000,000	$ 40,000,000
					Total	$ 20,000,000	$ 100,000,000	$ 40,000,000

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	*Allocated E & C Cost	*Total E & C Cost
88109862	WELSH 345/18.0KV TRANSFORMER #1	6/1/2021	6/1/2021		No	$ 1,005,249	$ 8,041,990
					Total	$ 1,005,249	$ 8,041,990

*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.

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

Customer	**Study Number**
WFEC	AG1-2019-037

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**
WFEC	89038173	OKGE	WFEC	250	12/1/2019	5/1/2049	12/1/2019	5/1/2049	$ 85,125	$ -	$ 1,773,443	$ 10,201,188
									$ 85,125	$ -	$ 1,773,443	$ 10,201,188

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
89038173	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89038173	Renfrow-Renfrow Tap 138kV Ckt 1	9/25/2017	9/25/2017			$ 85,125	$ -	$ 85,125	$ 157,374
	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ -	$ 92,499	$ 92,499	$ 810,823
	HUGO 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012			$ -	$ 135,252	$ 135,252	$ 1,177,156
	Kingfisher Co Tap - Mathewson 345kV CKT 1	3/1/2018	3/1/2018			$ -	$ 844,530	$ 844,530	$ 1,597,547
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ -	$ 598,109	$ 598,109	$ 6,323,882
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ -	$ 17,928	$ 17,928	$ 134,405
					Total	$ 85,125	$ 1,688,318	$ 1,773,443	$ 10,201,188

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
WRGS	AG1-2019-038

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**
WRGS	89210410	WR	WR	125	1/1/2020	1/1/2025	1/1/2020	1/1/2025	$ 63,924	$ -	$ 17,018,797	$ 21,365,060
									$ 63,924	$ -	$ 17,018,797	$ 21,365,060

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
89210410	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89210410	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	12/1/2009	12/1/2009			$ -	$ 29,151	$ 29,151	$ 136,722
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 12,073	$ 12,073	$ 92,746
	MEDICINE LODGE - PRATT 115KV CKT 1	12/1/2009	12/1/2009			$ -	$ 85,027	$ 85,027	$ 385,114
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	12/1/2009	12/1/2009			$ -	$ 9,317	$ 9,317	$ 48,517
	Rice - Lyons 115 kV Ckt 1	4/1/2013	4/1/2013			$ -	$ 305,081	$ 305,081	$ 412,792
	Rice County 230/115 kV transformer Ckt 1	10/1/2012	10/1/2012			$ -	$ 134,971	$ 134,971	$ 185,603
	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Addition (NU)	12/31/2016	12/31/2016			$ 3,843	$ -	$ 3,843	$ 4,696
	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Co Addition (NU)	10/16/2016	10/16/2016			$ -	$ 16,379,251	$ 16,379,251	$ 20,016,916
	Wheatland 115 kV #2	12/31/2012	12/31/2012			$ 60,081	$ -	$ 60,081	$ 81,954
					Total	$ 63,924	$ 16,954,873	$ 17,018,797	$ 21,365,060

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
WRGS	AG1-2019-039

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**
WRGS	89210446	WR	WR	35	1/1/2020	1/1/2025	1/1/2020	1/1/2025	$ 28,782	$ -	$ 1,299,621	$ 1,747,953
									$ 28,782	$ -	$ 1,299,621	$ 1,747,953

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
89210446	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89210446	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	12/1/2009	12/1/2009			$ -	$ 8,162	$ 8,162	$ 38,280
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 3,381	$ 3,381	$ 25,969
	MEDICINE LODGE - PRATT 115KV CKT 1	12/1/2009	12/1/2009			$ -	$ 23,808	$ 23,808	$ 107,834
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	12/1/2009	12/1/2009			$ -	$ 2,609	$ 2,609	$ 13,584
	Rice - Lyons 115 kV Ckt 1	4/1/2013	4/1/2013			$ -	$ 85,420	$ 85,420	$ 115,578
	Rice County 230/115 kV transformer Ckt 1	10/1/2012	10/1/2012			$ -	$ 37,794	$ 37,794	$ 51,972
	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Addition (NU)	12/31/2016	12/31/2016			$ 4,478	$ -	$ 4,478	$ 5,473
	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Co Addition (NU)	10/16/2016	10/16/2016			$ -	$ 1,109,665	$ 1,109,665	$ 1,356,111
	Wheatland 115 kV #2	12/31/2012	12/31/2012			$ 24,304	$ -	$ 24,304	$ 33,152
					Total	$ 28,782	$ 1,270,839	$ 1,299,621	$ 1,747,953

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
WRGS	AG1-2019-040

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**
WRGS	89217003	SECI	WR	80	1/1/2020	1/1/2025	1/1/2020	1/1/2025	$ 46,926	$ -	$ 1,184,115	$ 2,178,508
									$ 46,926	$ -	$ 1,184,115	$ 2,178,508

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
89217003	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total Revenue Requirements
89217003	FLATRDG3 - HARPER 138KV CKT 1	12/1/2009	12/1/2009			$ -	$ 39,345	$ 39,345	$ 196,144
	Ironwood 345 kV Substation Ford Co Addition	12/17/2014	12/17/2014			$ -	$ 662,462	$ 662,462	$ 846,986
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ -	$ 142,061	$ 142,061	$ 680,243
	Rice - Lyons 115 kV Ckt 1	4/1/2013	4/1/2013			$ -	$ 164,928	$ 164,928	$ 223,156
	Rice County 230/115 kV transformer Ckt 1	10/1/2012	10/1/2012			$ -	$ 76,276	$ 76,276	$ 104,890
	Wheatland 115 kV #2	12/31/2012	12/31/2012			$ 46,926	$ -	$ 46,926	$ 64,009
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ -	$ 52,117	$ 52,117	$ 63,080
					Total	$ 46,926	$ 1,137,189	$ 1,184,115	$ 2,178,508

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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

Customer	**Study Number**
WRGS	AG1-2019-041

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**
WRGS	89217294	WR	WR	6	1/1/2020	1/1/2025	1/1/2020	1/1/2025	$ 3,977	$ -	$ 12,282,367	$ 12,475,752
									$ 3,977	$ -	$ 12,282,367	$ 12,475,752

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
89217294	Circleville - Goff 115kV Rebuild	6/1/2024	6/1/2024			$ 12,258,391	$ 12,258,391	$ 12,443,134
					Total	$ 12,258,391	$ 12,258,391	$ 12,443,134

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	Allocated E & C Cost	Total Revenue Requirements
89217294	Rice - Lyons 115 kV Ckt 1	4/1/2013	4/1/2013			$ 13,979	$ 18,914
	Rice County 230/115 kV transformer Ckt 1	10/1/2012	10/1/2012			$ 6,020	$ 8,278
	Wheatland 115 kV #2	12/31/2012	12/31/2012			$ 3,977	$ 5,425
					Total	$ 23,976	$ 32,617

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.

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
EMDE	Neosho - Riverton 161kV Line Rebuild (EMDE)	Empire portion of upgrade: rebuild 28.41 miles of 161kV line from Neosho to Riverton and upgrade any necessary terminal equipment to increase the summer emergency rating to 557 MVA	10/1/2021	12/1/2022	$28,410,000
SPS	Amoco Tap - Sundown Interchange 115 kV Terminal Upgrades	Upgrade any necessary terminal equipment at Sundown and/or Amoco Tap to increase the rating of the 115kV line between the two substations to 159/175/176/194 (SN/SE/WN/WE) MVA	6/1/2028	6/1/2028	$358,281
WERE	Circleville - Goff 115kV Rebuild	Tear down and rebuild the 15.2 mile Circleville-Kinghill (Goff) 115kV line using single 1192.5 kcmil ACSR conductor. Upgrade all substation equipment to a minimum 1200 Amps.	6/1/2024	6/1/2024	$12,258,391
WERE	Neosho - Riverton 161kV Line Rebuild (WERE)	Westar portion of upgrade: Rebuild 2.44 miles of Neosho-Riverton 161kV line using bundled 1590 Lapwing ACSR and OPGW. Remove the wavetrap.	10/1/2021	12/1/2022	$4,046,161
AEPW	ERCOT EAST DC Tie Expansion	Add additional 250 MW DC Tie	6/1/2021	6/1/2023	$100,000,000

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

Network Upgrades requiring credits per Attachment Z2 of the SPP OATT.

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)	Total Gross CPO Allocation
AEP	EXPLORER GLENPOOL - RIVERSIDE STATION 138KV CKT 1 (AEP)	Reconductor 1.82 miles line with Drake ACCC/TW.	3/23/2009	3/23/2009	$304,872
AEP	Shidler 138 kV	Replace existing 138kV CB at Shidler substation with 4 breaker ring. Provide Terminal for KAMO's 138kV line from Remington Station. Replace ground switch and circuit switcher, Move terminal for OG&E Osage 138kV line. Replace relay panels for OGE Osage and AEP Mound Road line terminals. Install 138kV meter transformers and meter at Shidler station. Install relay panel, line trap and RTU at Mound Road station for line to Shidler station.	4/30/2014	4/30/2014	$69,645
AEP	Valliant 345 kV (AEP)	Install 345 kV terminal equipment at Valliant substation.	4/17/2012	4/17/2012	$615,797
EDE	SUB 110 - ORONOGO JCT. - SUB 452 - RIVERTON 161KV CKT 1	Reconductor 11.9 miles of Oronogo Jct. to Riverton 161kV Ckt. 1 from 556 ACSR to 795 ACSR, change CT settings @ Oronogo, and replace wavetrap.	6/1/2011	6/1/2011	$181,540
GRDA	FAIRFAX - PAWNEE 138KV CKT 2	Build new Fairfax (AECI) - Pawnee 138 kV line and rebuild existing 69 kV line from Fairfax - Pawnee, approximately 19.5 miles with double circuit towers for double circuit 138 kV line. One side will be operated at 69 kV.	10/14/2014	10/14/2014	$72,965
GRDA	Pawnee 138 kV	New GRDA 138 kV switching station at Pawnee. New 138 kV three breaker ring bus substation containing 3 138 kV circuit breakers, associated disconnect switches, structures, relaying, grounding, fencing, and all associated and miscellaneous equipment.	10/3/2014	10/3/2014	$21,252
ITCM	HUGO - VALLIANT 345KV CKT 1	Install new line from Valliant 345 kV to Hugo Power Plant with 19 miles of bundled 1590 ACSR conductior.	7/1/2012	7/1/2012	$3,682,314
ITCM	HUGO 345/138KV TRANSFORMER CKT 1	Install new line from Valliant 345 kV to Hugo Power Plant with 19 miles of bundled 1590 ACSR conductior. Note that ITC is building the line from Valiant to Hugo.	7/1/2012	7/1/2012	$1,439,773
ITCM	Ironwood 345 kV Substation Ford Co Addition	Add one (1) 345kV line terminal including two (2) 345kV circuit breakers, four (4) 345kV disconnect switches, and associated structural steel, foundations, and associated miscellaneous equipment. Contribution by Interconnection Customer towards constructi	12/17/2014	12/17/2014	$846,986
KCPL	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	$831,377
MIDW	Rice - Lyons 115 kV Ckt 1	Rebuild and extend 115 kV transmission line from existing Rice Co. substation to new Rice Co. substation, including engineering, surveying, and modification of existing easements as required.	4/1/2013	4/1/2013	$770,441
MIDW	Rice County 230/115 kV transformer Ckt 1	Install 230/115 kV transformer at Rice County.	10/1/2012	10/1/2012	$350,743
MIDW	Wheatland 115 kV #2	Install metering equipment at the Wheatland 115 kV substation.	12/31/2012	12/31/2012	$184,540
MKEC	FLATRDG3 - HARPER 138KV CKT 1	Rebuild 24.15 mile line	12/1/2009	12/1/2009	$196,144
MKEC	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	Rebuild 8.05 mile line	12/1/2009	12/1/2009	$175,002
MKEC	MEDICINE LODGE - PRATT 115KV CKT 1	Rebuild 26 mile line	12/1/2009	12/1/2009	$492,948
MKEC	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	Upgrade transformer	12/1/2009	12/1/2009	$62,101
NPPD	Fort Randall - Madison County 230kV Ckt 1	Raise structures and line clearances as necessary to re-rate the transmission line to 320 MVA	12/23/2013	12/23/2013	$223,142
NPPD	Kelly - Madison County 230kV Ckt 1	Raise structures and line clearances as necessary to re-rate the transmission line to 320MVA	11/1/2014	11/1/2014	$1,051
NPPD	Twin Church - Dixon County 230kV Line Upgrade	Increase clearances to accommodate 320MVA facility rating	11/1/2018	11/1/2018	$4,379
OGE	BEELINE - EXPLORER GLENPOOL 138KV CKT 1	Reconductor 0.92 miles of line with Drake ACCC/TW.	6/1/2009	6/1/2009	$134,034
OGE	EXPLORER GLENPOOL - RIVERSIDE STATION 138KV CKT 1 (OGE)	Reconductor 1.82 miles with ACCC. Replace wave trap jumpers at Riverside.	6/1/2009	6/1/2009	$273,785
OGE	Gracemont 138kV line terminal addition	138kV line terminal at Gracemont substation, including breaker, line relaying, disconnect switches and associated equipment, dead end structures, revenue metering with CT's and PT's.	10/15/2011	10/15/2011	$49,756
OGE	Kingfisher Co Tap - Mathewson 345kV CKT 1	Replace terminal equipment to achieve conductor limit	3/1/2018	3/1/2018	$2,126,999
OGE	NORTHWEST - WOODWARD 345KV CKT 1	Build 345 kV line	1/1/2010	1/1/2010	$11,573,031
OGE	Osage - Shidler 138kV	Replace Shidler 138kV line terminal primary and redundant relaying with SEL uProcessor based relays, install 3-138kV PTs, Install 1-138kV CB, Install metering, Install 2000A line Trap	7/1/2014	7/1/2014	$5,762
OGE	Renfrow-Renfrow Tap 138kV Ckt 1	Replace terminal equipment.	9/25/2017	9/25/2017	$157,374
OGE	Tap Woodring - Mathewson 345kV - Kingfisher Co (NU)	Construct three (3) 3000 continuous ampacity breakers, cut in transmission line and re-terminate, control panel replacement, line relaying, disconnect switches, structures, foundations, conductors, insulators, and all other associated work and materials.	10/2/2017	10/2/2017	$302,684
OGE	Woodward EHV 138kV Phase Shifting Transformer circuit #1	Install one (1) 138 kV phase shifting transformer along with upgrading relay, protective, and metering equipment, and all associated and miscellaneous materials.	8/2/2017	8/2/2017	$311,628
SPS	PLANT X - TOLK 230KV REBUILD CIRCUIT #1	Rebuild Plant X – Tolk 230kV transmission circuit #1 which is approximately 10 miles in length. The existing 795 MCM ACSR conductor will be replaced with 995 MCM ACCS conductor along with upgrading associated disconnect switches and structural steel.	12/31/2017	12/31/2017	$211,587
SPS	PLANT X - TOLK 230KV REBUILD CIRCUIT #2	Rebuild Plant X – Tolk 230kV transmission circuit #2 which is approximately 10 miles in length. The existing 795 MCM ACSR conductor will be replaced with 995 MCM ACCS conductor along with upgrading associated disconnect switches and structural steel.	12/31/2017	12/31/2017	$205,136
SPS	POWER SYSTEM STABILIZERS IN SPS	Install Power System Stabilizers (PSS) at Tolk (Units: 1,2) and Jones (Units: 1,2,3).	11/30/2014	11/30/2014	$251,112
SPS	TUCO INTERCHANGE 345/230KV CKT 1 REPLACEMENT	The existing 345/230kV 560/560MVA autotransformer at Tuco Substation will be replaced with a new transformer unit to match the other transformer at this site. The new transformer can be installed at Tuco Substation by removing the existing transformer fro	6/1/2018	6/1/2018	$1,016,731
WAPA	Gavins Point - Yankton Junction 115 kV	Rebuild approximately four (4) miles of 115 kV and replace associated terminal equipment.	10/1/2020	10/1/2020	$1,033

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

WFEC	WASHITA - GRACEMONT 138 KV CKT 2	BUILD WASHITA - GRACEMONT 138KV CKT 2 (APPROXIMATELY 7 MILES). ADD LINE TERMINAL AT WASHITA AND PROCURE RIGHT OF WAY.	10/12/2012	10/12/2012	$310,406
WR	DEARING 138KV	Dearing 138 kV 20 MVAR Capacitor Addition	6/30/2013	6/30/2013	$478
WR	COFFEYVILLE TAP - DEARING 138KV CKT 1 (WR) #2	Replace Disconnect Switches, Wavetrap, Breaker, Jumpers with a minimum 2000 amp emergency rating equipment	6/9/2010	6/9/2010	$102
WR	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Addition (NU)	Relaying settings changes at the new 345kV switching station.	12/31/2016	12/31/2016	$10,169
WR	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Co Addition (NU)	345 kV Breaker and Half Substation (No metering or customer equipment); Eight (8) 345 kV Breakers; Twenty (20) 345 kV switches; Two (2) 345 kV reactor switches; Fourteen (14) VTs; Two (2) 345 kV 50 Mvar line reactors; New redundant primary relaying, relay	10/16/2016	10/16/2016	$21,373,027

*Note: CPOs may be calculated based on upgrade(s) currently in study and/or estimated upgrade cost(s), which may be subject to change.

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
EES	Everton - St Joe 161kV Rebuild	Rebuild 13.58 miles of Everton - St. Joe 115 kV	6/1/2021	12/1/2021	$ 12,960,277
EES	Hilltop - St Joe 161 kV Rebuild	Rebuild 3.9 miles of Hilltop - St. Joe 115 kV	6/1/2021	12/1/2021	$ 3,722,024
EASTMAN	Rebuild Eastman Gen - North Texas Eastman ckt 1	Rebuild Eastman Gen - North Texas Eastman ckt 1	7/1/2021	12/1/2021	$ 596,751
EASTMAN	Rebuild Eastman Gen - North Texas Eastman ckt 2	Rebuild Eastman Gen - North Texas Eastman ckt 2	7/1/2021	12/1/2021	$ 596,751
EASTMAN	EASTMAN 138/13.8KV TRANSFORMER #1	Upgrade Eastman 138/13.8 kV transformer #1	6/1/2021	6/1/2021	$ 3,111,386
EASTMAN	EASTMAN 138/13.8KV TRANSFORMER #3	Upgrade Eastman 138/13.8 kV transformer #3	6/1/2021	6/1/2021	$ 3,111,386
AEP GEN	WELSH 345/18.0KV TRANSFORMER #1	Add additional GSU at Welsh #1	6/1/2021	6/1/2021	$ 8,041,990

Table 6 - Potential Redispatch Relief Pairs to Prevent Deferral of Service

Reserved

Table 7- Service Upgrade Cost Allocation per Request

Upgrade Name	Customer	Study Number	Reservation	Allocation Percentage	Allocated E & C Cost
Amoco Tap - Sundown Interchange 115 kV Termi	SPSM	AG1-2019-029	89170351	100.00%	$358,281
				Total:	$358,281

Table 7- Service Upgrade Cost Allocation per Request

Upgrade Name	Customer	Study Number	Reservation	Allocation Percentage	Allocated E & C Cost
Circleville - Goff 115kV Rebuild	WRGS	AG1-2019-041	89217294	100.00%	$12,258,391
				Total:	$12,258,391

Table 7- Service Upgrade Cost Allocation per Request

Upgrade Name	Customer	Study Number	Reservation	Allocation Percentage	Allocated E & C Cost
Neosho - Riverton 161kV Line Rebuild (EMDE)	APM	AG1-2019-002	89182016	0.21%	$61,071
Neosho - Riverton 161kV Line Rebuild (EMDE)	APM	AG1-2019-003	89183931	0.28%	$79,367
Neosho - Riverton 161kV Line Rebuild (EMDE)	APM	AG1-2019-004	89183944	1.01%	$286,656
Neosho - Riverton 161kV Line Rebuild (EMDE)	EDE	AG1-2019-009	89219628	12.93%	$3,673,246
Neosho - Riverton 161kV Line Rebuild (EMDE)	EDE	AG1-2019-010	89219810	71.20%	$20,228,401
Neosho - Riverton 161kV Line Rebuild (EMDE)	EDE	AG1-2019-011	89220085	13.36%	$3,794,159
Neosho - Riverton 161kV Line Rebuild (EMDE)	SPRM	AG1-2019-028	89227031	1.01%	$287,100
				Total:	$28,410,000

Table 7- Service Upgrade Cost Allocation per Request

Upgrade Name	Customer	Study Number	Reservation	Allocation Percentage	Allocated E & C Cost
Neosho - Riverton 161kV Line Rebuild (WERE)	APM	AG1-2019-002	89182016	0.21%	$8,698
Neosho - Riverton 161kV Line Rebuild (WERE)	APM	AG1-2019-003	89183931	0.28%	$11,303
Neosho - Riverton 161kV Line Rebuild (WERE)	APM	AG1-2019-004	89183944	1.01%	$40,826
Neosho - Riverton 161kV Line Rebuild (WERE)	EDE	AG1-2019-009	89219628	12.93%	$523,145
Neosho - Riverton 161kV Line Rebuild (WERE)	EDE	AG1-2019-010	89219810	71.20%	$2,880,935
Neosho - Riverton 161kV Line Rebuild (WERE)	EDE	AG1-2019-011	89220085	13.36%	$540,365
Neosho - Riverton 161kV Line Rebuild (WERE)	SPRM	AG1-2019-028	89227031	1.01%	$40,889
				Total:	$4,046,161

Table 7- Service Upgrade Cost Allocation per Request

Upgrade Name	Customer	Study Number	Reservation	Allocation Percentage	Allocated E & C Cost
ERCOT EAST DC Tie Expansion	TNSK	AG1-2019-032	88109881	20.00%	$20,000,000
ERCOT EAST DC Tie Expansion	TNSK	AG1-2019-033	88109886	20.00%	$20,000,000
ERCOT EAST DC Tie Expansion	TNSK	AG1-2019-034	88109895	20.00%	$20,000,000
ERCOT EAST DC Tie Expansion	TNSK	AG1-2019-035	88109896	20.00%	$20,000,000
ERCOT EAST DC Tie Expansion	TNSK	AG1-2019-036	88109897	20.00%	$20,000,000
				Total:	$100,000,000