AGGREGATE FACILITIES STUDY

SPP-2017-AG2-AFS-1

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SPP Engineering, SPP Transmission Services

REVISION HISTORY

DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION	COMMENTS
2/15/2018	SPP	Original	

CONTENTS

EXECUTIVE SUMMARY

This study report provides preliminary results for Southwest Power Pool, Inc. (SPP) Aggregate Transmission Service Study (ATSS) SPP-2017-AG2. Pursuant to Attachment Z1 of the SPP Open Access Transmission Tariff (OATT), 1561 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 February 15, 2018 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 February 23, 2018, 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 December 1, 2017 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 transmission owner planned projects, expansion plan projects, or Customer assigned upgrades.

Some constraints identified in the AFS were not assigned to the Customer because SPP 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 6 lists possible generation pairs that could be used to allow start of service prior to completion of assigned Network Upgrades by utilizing interim re-dispatch. 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 though the reservation period of the new request, excluding depreciation, shall be assigned to the new request. These incremental expenses, excluding depreciation, include:

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

In the case of a Base Plan Upgrade being 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 Southwest 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 2017 Integrated Transmission Planning (ITP) models, used in the 2017 ITP Near-Term, 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:

- 2018 Summer Peak (18SP)
- 2018 Winter Peak (18WP)
- 2021 Summer Peak (21SP)
- 2021 Winter Peak (21WP)
- 2026 Summer Peak (26SP)
- 2026 Winter Peak (26WP)

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

The chosen base case models were modified to reflect the current modeling information. One group of requests was developed from the aggregate to model the requested service. From the seasonal models, two system scenarios were developed. Scenario 0 includes projected usage of transmission included in the SPP 2017 Series Cases. Scenario 5 includes transmission service not already included in the SPP 2017 Series 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 as identified in Table 6. Using the selected cases where the limiting facilities were identified, potential incremental and decremental units were identified by determining the generation amount available for increasing and decreasing from the units' generation amount, maximum generation amount, and minimum generation amount. If the incremental or decremental amount was greater than 1 MW, the unit was considered as a potential incremental or decremental unit.

Generation shift factors were calculated for the potential incremental and decremental units using 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 SWPA upgrade costs which 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 identifies potential redispatch pairs available to relieve the aggregate impacts on identified constraints to prevent deferral of start of service. MW amounts listed for redispatch are maximum values observed in a long term study and may only be available in a reduced amount or unavailable at any given time.

TABLE 7

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 February 15, 2018. This will open a 5 business day window for Customer response. To remain in the ATSS, SPP must receive from the Customer by February 23, 2018, 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:	3mw
• 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	Minimum Allocated ATC (MW) within reservation period	Season of Minimum Allocated ATC within reservation period	[5]One or More Study Parameters Exceeded
BEPM	AG2-2017-001	85902074	WAUE	WAUE	200	12/1/2019	12/1/2049	12/1/2019	12/1/2049	Note 4	Note 4	0	26SP	NO
BEPM	AG2-2017-002	85563789	WAUE	SGE	110	10/1/2019	10/1/2025	10/1/2019	10/1/2025	Note 4	Note 4	0	26SP	YES
BPWN	AG2-2017-003	85937748	LES	NPPD	18	1/1/2019	1/1/2022	1/1/2019	1/1/2022	1/1/2019	1/1/2022	0	21SP	YES
BPWN	AG2-2017-004	85937640	NPPD	NPPD	28	1/1/2019	1/1/2022	1/1/2019	1/1/2022	1/1/2019	1/1/2022	0	21SP	NO
BPWN	AG2-2017-005	85937710	WAUE	NPPD	3	1/1/2019	1/1/2024	1/1/2019	1/1/2024	1/1/2019	1/1/2024	0	21SP	NO
BRPS	AG2-2017-006	85951423	KCPL	NPPD	25	6/1/2019	6/1/2024	6/1/2019	6/1/2024	6/1/2019	6/1/2024	0	21SP	NO
BRPS	AG2-2017-007	85951433	SECI	NPPD	20	6/1/2018	6/1/2019	6/1/2018	6/1/2019	6/1/2018	6/1/2019	0	18SP	YES
BRPS	AG2-2017-008	85951472	WAUE	NPPD	50	6/1/2019	6/1/2021	6/1/2019	6/1/2021	6/1/2019	6/1/2021	0	21SP	NO
KCPS	AG2-2017-009	85952034	SECI	WR	100	9/1/2018	6/1/2032	9/1/2018	6/1/2032	9/1/2018	6/1/2032	0	21SP	YES
KCPS	AG2-2017-010	85955794	WPEK	WR	50	6/1/2018	12/1/2031	6/1/2018	12/1/2031	Note 4	Note 4	0	18SP	YES
KCPS	AG2-2017-011	85956901	WR	WR	200	1/1/2019	6/1/2039	1/1/2019	6/1/2039	1/1/2019	6/1/2039	0	21SP	YES
KCPS	AG2-2017-012	85956933	WR	WR	245	1/1/2019	6/1/2049	1/1/2019	6/1/2049	1/1/2019	6/1/2049	0	21SP	YES
KMEA	AG2-2017-013	85938899	WR	KCPL	10	6/1/2018	6/1/2033	6/1/2018	6/1/2033	6/1/2018	6/1/2033	0	18SP	YES
KMEA	AG2-2017-014	85938915	WR	WFEC	11	6/1/2018	6/1/2033	6/1/2018	6/1/2033	6/1/2018	6/1/2033	0	18SP	YES
KMEA	AG2-2017-015	85938927	WR	WR	4	6/1/2018	6/1/2033	6/1/2018	6/1/2033	6/1/2018	6/1/2033	0	18SP	YES
KMEA	AG2-2017-016	85938931	WR	SECI	15	6/1/2018	6/1/2033	6/1/2018	6/1/2033	6/1/2018	6/1/2033	0	18SP	YES
KMEA	AG2-2017-017	85938943	WR	SECI	1	6/1/2018	6/1/2033	6/1/2018	6/1/2033	6/1/2018	6/1/2033	0	18SP	YES
KMEA	AG2-2017-018	85938949	WR	WR	1	6/1/2018	6/1/2033	6/1/2018	6/1/2033	6/1/2018	6/1/2033	0	18SP	YES
KMEA	AG2-2017-019	85957918	NPPD	WFEC	1	1/1/2019	6/1/2024	1/1/2019	6/1/2024	1/1/2019	6/1/2024	0	21SP	NO
MIDW	AG2-2017-020	85955240	WR	WR	1	6/1/2018	6/1/2033	6/1/2018	6/1/2033	Note 4	Note 4	0	18SP	YES
MSCG	AG2-2017-021	85871343	OKGE	EES	106	6/1/2018	5/1/2022	6/1/2018	5/1/2022	Note 4	Note 4	0	18SP	NO
OPPM	AG2-2017-022	85877850	NPPD	OPPD	160	12/1/2018	12/1/2038	12/1/2018	12/1/2038	12/1/2018	12/1/2038	0	21SP	NO
PEC	AG2-2017-023	85912157	WFEC	WFEC	25	6/1/2018	6/1/2023	6/1/2018	6/1/2023	6/1/2018	6/1/2023	0	18SP	YES
SSCN	AG2-2017-024	85942802	NPPD	NPPD	1	6/1/2018	2/1/2033	6/1/2018	2/1/2033	Note 4	Note 4	0	18SP	NO
WFEC	AG2-2017-025	85618715	OKGE	WFEC	100	12/1/2018	12/1/2053	12/1/2018	12/1/2053	Note 4	Note 4	0	21SP	YES
WRGS	AG2-2017-026	85905727	WR	WR	26	6/1/2018	6/1/2023	6/1/2018	6/1/2023	Note 4	Note 4	0	18SP	YES
WRGS	AG2-2017-027	85905742	WR	WR	50	6/1/2018	6/1/2023	6/1/2018	6/1/2023	Note 4	Note 4	0	18SP	YES
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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 completion of the previous studies.

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

Note 4: Transmission customer did not select “remain in the study using interim 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)
BEPM	AG2-2017-001	85902074	$0	$0	$0	8	$0	$0	$0	$0	$0	$0	Schedule 9 & 11 Charges	$0
BEPM	AG2-2017-002	85563789	$49,018	$49,018	$0		$0	$0	$0	$62,093	$0	$0	Schedule 9 & 11 Charges	$49,018
BPWN	AG2-2017-003	85937748	$23,986	$23,986	$0		$0	$0	$0	$102,058	$0	$0	Schedule 9 & 11 Charges	$23,986
BPWN	AG2-2017-004	85937640	$0	$0	$0		$0	$0	$0	$0	$0	$0	Schedule 9 & 11 Charges	$0
BPWN	AG2-2017-005	85937710	$6,949	$0	$6,949		$0	$0	$0	$0	$24,980	$0	Schedule 9 & 11 Charges	$0
BRPS	AG2-2017-006	85951423	$1,410	$0	$1,410		$0	$0	$0	$0	$1,576	$0	Schedule 9 & 11 Charges	$0
BRPS	AG2-2017-007	85951433	$93,470	$93,307	$163		$0	$0	$0	$253,821	$187	$0	Schedule 9 & 11 Charges	$93,307
BRPS	AG2-2017-008	85951472	$0	$0	$0		$0	$0	$0	$0	$0	$0	Schedule 9 & 11 Charges	$0
KCPS	AG2-2017-009	85952034	$373,773	$373,061	$712		$0	$0	$0	$1,955,781	$1,000	$0	Schedule 9 & 11 Charges	$373,061
KCPS	AG2-2017-010	85955794	$2,130,490	$2,130,490	$0		$0	$0	$0	$3,834,242	$0	$0	Schedule 9 & 11 Charges	$2,130,490
KCPS	AG2-2017-011	85956901	$8,077,587	$8,077,587	$0		$0	$0	$0	$13,130,628	$0	$0	Schedule 9 & 11 Charges	$8,077,587
KCPS	AG2-2017-012	85956933	$6,962,854	$6,955,117	$7,736	8	$0	$0	$0	$15,966,334	$13,589	$0	Schedule 9 & 11 Charges	$6,955,117
KMEA	AG2-2017-013	85938899	$75,701	$23,437	$52,263		$0	$0	$0	$63,243	$163,071	$0	Schedule 9 & 11 Charges	$23,437
KMEA	AG2-2017-014	85938915	$190,634	$62,909	$127,725		$0	$0	$0	$196,267	$398,480	$0	Schedule 9 & 11 Charges	$62,909
KMEA	AG2-2017-015	85938927	$29,978	$8,921	$21,057		$0	$0	$0	$28,140	$70,288	$0	Schedule 9 & 11 Charges	$8,921
KMEA	AG2-2017-016	85938931	$108,595	$34,882	$73,713		$0	$0	$0	$88,678	$199,801	$0	Schedule 9 & 11 Charges	$34,882
KMEA	AG2-2017-017	85938943	$54,426	$17,961	$36,466		$0	$0	$0	$27,723	$56,285	$0	Schedule 9 & 11 Charges	$17,961
KMEA	AG2-2017-018	85938949	$8,768	$2,581	$6,186		$0	$0	$0	$6,868	$17,055	$0	Schedule 9 & 11 Charges	$2,581
KMEA	AG2-2017-019	85957918	$16,923	$0	$16,923		$0	$0	$0	$0	$44,210	$0	Schedule 9 & 11 Charges	$0
MIDW	AG2-2017-020	85955240	$2,785	$2,785	$0		$0	$0	$0	$3,859	$0	$0	Schedule 9 & 11 Charges	$2,785
MSCG	AG2-2017-021	85871343	$0	$0	$0		$0	$0	$0	$0	$0	$18,273,677	$18,273,677	$0
OPPM	AG2-2017-022	85877850	$4,615,249	$4,615,249	$0		$0	$0	$0	$6,612,523	$0	$0	Schedule 9 & 11 Charges	$4,615,249
PEC	AG2-2017-023	85912157	$456,581	$456,581	$0		$0	$0	$0	$793,832	$0	$0	Schedule 9 & 11 Charges	$456,581
SSCN	AG2-2017-024	85942802	$65,900	$0	$65,900		$0	$0	$0	$0	$89,202	$0	Schedule 9 & 11 Charges	$0
WFEC	AG2-2017-025	85618715	$1,642,786	$1,555,411	$87,375	8	$0	$0	$0	$8,133,611	$169,470	$0	Schedule 9 & 11 Charges	$1,555,411
WRGS	AG2-2017-026	85905727	$832,690	$808,731	$23,958		$0	$0	$0	$1,016,141	$30,564	$0	Schedule 9 & 11 Charges	$808,731
WRGS	AG2-2017-027	85905742	$5,761,065	$5,720,063	$41,002		$0	$0	$0	$6,770,664	$52,912	$0	Schedule 9 & 11 Charges	$5,720,063
Grand Total			**$31,581,618**		**$569,538**			**$0**	$0	**$59,046,505**	**$1,332,669**			**$31,012,078**

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.

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

Customer	**Study Number**
BEPM	AG2-2017-001

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**
BEPM	85902074	WAUE	WAUE	200	12/1/2019	12/1/2049	12/1/2019	12/1/2049	$ -	$ -	$ -	$ -
									$ -	$ -	$ -	$ -

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
85902074	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
85902074	DICKINSON 230/115/13.8KV CKT 2	6/1/2022	6/1/2022		

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
85902074	None								
					Total				

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

**Note: CPOs for creditable upgrade(s) may be required based on completion of GI review.

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

Customer	Study Number
BEPM	AG2-2017-002

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
BEPM	85563789	WAUE	SGE	110	10/1/2019	10/1/2025	10/1/2019	10/1/2025	$ -	$ -	$ 49,018	$ 62,093
									$ -	$ -	$ 49,018	$ 62,093

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85563789	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
85563789	DICKINSON 230/115/13.8KV CKT 2	6/1/2022	6/1/2022		

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
85563789	Hoskins - Dixon County 230kV Line Upgrade	10/24/2015	10/24/2015			$ 17,270	$ 19,846
	Kelly - Madison County 230kV Ckt 1	11/1/2014	11/1/2014			$ 31,748	$ 42,247
					Total	$ 49,018	$ 62,093

*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
BPWN	AG2-2017-003

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
BPWN	85937748	LES	NPPD	18	1/1/2019	1/1/2022	1/1/2019	1/1/2022	$ -	$ -	$ 23,986	$ 102,058
									$ -	$ -	$ 23,986	$ 102,058

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85937748	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
85937748	CLIFTON - GREENLEAF 115KV CKT 1	6/1/2011	6/1/2011			$ 21,758	$ 92,579
	GREENLEAF - KNOB HILL 115KV CKT 1 (MKEC)	6/1/2013	6/1/2013			$ 2,228	$ 9,480
					Total	$ 23,986	$ 102,058

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

**Note: This request is related to OASIS request 85937047.

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

Customer	**Study Number**
BPWN	AG2-2017-004

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**
BPWN	85937640	NPPD	NPPD	28	1/1/2019	1/1/2022	1/1/2019	1/1/2022	$ -	$ -	$ -	$ -
									$ -	$ -	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85937640	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

**Note: This request is related to OASIS request 85937047.

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

Customer BPWN
Study Number AG2-2017-005

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
BPWN	85937710	WAUE	NPPD	3	1/1/2019	1/1/2024	1/1/2019	1/1/2024	$ 6,949	$ -	$ 6,949	$ 24,980
									$ 6,949	$ -	$ 6,949	$ 24,980

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85937710	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Base Case Violations Projects - Reported for informational purposes only.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
85937710	LAMAR - SPRING CREEK 115KV CKT 1	6/1/2022	6/1/2022		
	STORLA (KV1A) 230/115/13.2KV TRANSFORMER CKT 1	1/1/2019	10/1/2020		

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
85937710	CLIFTON - GREENLEAF 115KV CKT 1	6/1/2011	6/1/2011			$ 4,280	$ 20,072
	GREENLEAF - KNOB HILL 115KV CKT 1 (MKEC)	6/1/2013	6/1/2013			$ 438	$ 2,055
	Kelly - Madison County 230kV Ckt 1	11/1/2014	11/1/2014			$ 2,231	$ 2,852
					Total	$ 6,949	$ 24,980

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.
**Note: This request is related to OASIS request 85937047.

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

Customer	Study Number
BRPS	AG2-2017-006

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
BRPS	85951423	KCPL	NPPD	25	6/1/2019	6/1/2024	6/1/2019	6/1/2024	$ 1,410	$ -	$ 1,410	$ 1,576
									$ 1,410	$ -	$ 1,410	$ 1,576

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85951423	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
85951423	Twin Church - Dixon County 230kV Line Upgrade	11/1/2018	11/1/2018			$ 1,410	$ 1,576
					Total	$ 1,410	$ 1,576

*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	AG2-2017-007

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	85951433	SECI	NPPD	20	6/1/2018	6/1/2019	6/1/2018	6/1/2019	$ 163	$ -	$ 93,470	$ 254,008
									$ 163	$ -	$ 93,470	$ 254,008

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85951433	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
85951433	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ 2,746	$ 15,507
	Neligh - Petersburg North 115kV Ckt 1	11/9/2012	11/9/2012			$ 15,119	$ 18,483
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 56,132	$ 199,426
	POWER SYSTEM STABILIZERS IN SPS	11/30/2014	11/30/2014			$ 163	$ 187
	Twin Church - Dixon County 230kV Line Upgrade	11/1/2018	11/1/2018			$ 1,825	$ 1,838
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ 17,486	$ 18,566
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 93,470	$ 254,008

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

Customer	**Study Number**
BRPS	AG2-2017-008

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	85951472	WAUE	NPPD	50	6/1/2019	6/1/2021	6/1/2019	6/1/2021	$ -	$ -	$ -	$ -
									$ -	$ -	$ -	$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85951472	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Base Case Violations Projects - Reported for informational purposes only.

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
85951472	STORLA (KV1A) 230/115/13.2KV TRANSFORMER CKT 1	6/1/2019	10/1/2020		

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

Customer	Study Number
KCPS	AG2-2017-009

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
KCPS	85952034	SECI	WR	100	9/1/2018	6/1/2032	9/1/2018	6/1/2032	$ 712	$ -	$ 373,773	$ 1,956,781
									$ 712	$ -	$ 373,773	$ 1,956,781

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85952034	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
85952034	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ 34,521	$ 328,946
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 256,711	$ 1,517,045
	POWER SYSTEM STABILIZERS IN SPS	11/30/2014	11/30/2014			$ 712	$ 1,000
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ 81,829	$ 109,791
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 373,773	$ 1,956,781

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

Customer	Study Number
KCPS	AG2-2017-010

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
KCPS	85955794	WPEK	WR	50	6/1/2018	12/1/2031	6/1/2018	12/1/2031	$ -	$ -	$ 2,130,490	$ 3,834,242
									$ -	$ -	$ 2,130,490	$ 3,834,242

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85955794	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
85955794	FLATRDG3 - HARPER 138KV CKT 1	12/1/2009	12/1/2009			$ 30,592	$ 187,886
	Ft. Dodge - North Ft. Dodge 115 kV Ckt 2	5/1/2015	5/1/2015			$ 280,367	$ 382,910
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ 16,450	$ 151,984
	MEDICINE LODGE - PRATT 115KV CKT 1	12/1/2009	12/1/2009			$ 1,914	$ 10,679
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	12/1/2009	12/1/2009			$ 14,669	$ 94,106
	North Ft. Dodge - Spearville 115kV Ckt 2	5/1/2015	5/1/2015			$ 606,718	$ 828,620
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 130,108	$ 746,174
	Spearville 345/115 kV Transformer CKT 1	5/1/2015	5/1/2015			$ 1,009,259	$ 1,378,387
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ 40,413	$ 53,497
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 2,130,490	$ 3,834,242

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

Customer	Study Number
KCPS	AG2-2017-011

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
KCPS	85956901	WR	WR	200	1/1/2019	6/1/2039	1/1/2019	6/1/2039	$ -	$ -	$ 8,077,587	$ 13,130,628
									$ -	$ -	$ 8,077,587	$ 13,130,628

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
85956901	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
85956901	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 73,837	$ 73,837	$ 905,121
	Tap Centerville-Marmaton 161kV ALLEN CO Addition (NU)	7/21/2018	7/21/2018			$ -	$ 7,894,896	$ 7,894,896	$ 12,059,236
	Tap Centerville-Marmaton 161kV ALLEN CO Addition (WERE)	7/21/2018	7/21/2018			$ -	$ 108,854	$ 108,854	$ 166,272
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ -	$ 8,077,587	$ 8,077,587	$ 13,130,628

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

Customer	Study Number
KCPS	AG2-2017-012

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
KCPS	85956933	WR	WR	245	1/1/2019	6/1/2049	1/1/2019	6/1/2049	$ 7,736	$ -	$ 6,962,854	$ 15,979,923
									$ 7,736	$ -	$ 6,962,854	$ 15,979,923

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
85956933	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
85956933	Kingfisher Co Tap - Mathewson 345kV CKT 1	3/1/2018	3/1/2018			$ -	$ 61,623	$ 61,623	$ 109,829
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 94,885	$ 94,885	$ 1,552,214
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ -	$ 284,936	$ 284,936	$ 2,860,052
	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Addition (NU)	12/31/2016	12/31/2016			$ 7,736	$ -	$ 7,736	$ 13,589
	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Co Addition (NU)	10/16/2016	10/16/2016			$ -	$ 6,423,314	$ 6,423,314	$ 11,284,030
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ -	$ 90,359	$ 90,359	$ 160,209
					Total	$ 7,736	$ 6,955,117	$ 6,962,854	$ 15,979,923

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

**Note: CPOs for creditable upgrade(s) may be required based on completion of GI review.

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

Customer	Study Number
KMEA	AG2-2017-013

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
KMEA	85938899	WR	KCPL	10	6/1/2018	6/1/2033	6/1/2018	6/1/2033	$ 52,263	$ -	$ 75,701	$ 226,314
									$ 52,263	$ -	$ 75,701	$ 226,314

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
85938899	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
85938899	HANCOCK - MUSKOGEE 161KV CKT 1	6/1/2018	6/1/2019		

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
85938899	Fort Randall - Madison County 230kV Ckt 1	12/23/2013	12/23/2013			$ 11,574	$ 5,701	$ 17,274	$ 25,259
	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ 908	$ -	$ 908	$ 4,538
	Kingfisher Co Tap - Mathewson 345kV CKT 1	3/1/2018	3/1/2018			$ 592	$ -	$ 592	$ 796
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ 2,921	$ -	$ 2,921	$ 28,444
	Longview - KC South 161kV	6/13/2011	6/13/2011			$ 69	$ -	$ 69	$ 110
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 13,265	$ 6,533	$ 19,798	$ 119,522
	Post Rock 230kV Substation ELLIS CO Addition	9/1/2015	9/1/2015			$ 18,650	$ 9,186	$ 27,836	$ 38,567
	POWER SYSTEM STABILIZERS IN SPS	11/30/2014	11/30/2014			$ 14	$ -	$ 14	$ 20
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ 175	$ -	$ 175	$ 761
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ 4,096	$ 2,017	$ 6,114	$ 8,298
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 52,263	$ 23,437	$ 75,701	$ 226,314

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

Customer	Study Number
KMEA	AG2-2017-014

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
KMEA	85938915	WR	WFEC	11	6/1/2018	6/1/2033	6/1/2018	6/1/2033	$ 127,725	$ -	$ 190,634	$ 594,747
									$ 127,725	$ -	$ 190,634	$ 594,747

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
85938915	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
85938915	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	12/1/2009	12/1/2009			$ 8,061	$ 3,970	$ 12,031	$ 73,787
	Ft. Dodge - North Ft. Dodge 115 kV Ckt 2	5/1/2015	5/1/2015			$ 19,129	$ 9,422	$ 28,551	$ 39,877
	MEDICINE LODGE - PRATT 115KV CKT 1	12/1/2009	12/1/2009			$ 28,729	$ 14,150	$ 42,879	$ 253,973
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	12/1/2009	12/1/2009			$ 2,549	$ 1,256	$ 3,805	$ 25,911
	North Ft. Dodge - Spearville 115kV Ckt 2	5/1/2015	5/1/2015			$ 8,743	$ 4,306	$ 13,049	$ 18,227
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 7,775	$ 3,829	$ 11,604	$ 70,056
	Post Rock 230kV Substation ELLIS CO Addition	9/1/2015	9/1/2015			$ 20,531	$ 10,112	$ 30,644	$ 42,455
	Rice County 230/115 kV transformer Ckt 1	10/1/2012	10/1/2012			$ 17,664	$ 8,700	$ 26,364	$ 40,142
	Spearville 345/115 kV Transformer CKT 1	5/1/2015	5/1/2015			$ 14,544	$ 7,163	$ 21,707	$ 30,319
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 127,725	$ 62,909	$ 190,634	$ 594,747

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

Customer	Study Number
KMEA	AG2-2017-015

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	85938927	WR	WR	4	6/1/2018	6/1/2033	6/1/2018	6/1/2033	$ 21,057	$ -	$ 29,978	$ 98,428
									$ 21,057	$ -	$ 29,978	$ 98,428

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
85938927	None					$ -	$ -	$ -	$ -	$ -
					Total	$ -	$ -	$ -	$ -	$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
85938927	HANCOCK - MUSKOGEE 161KV CKT 1	6/1/2018	6/1/2019		

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
85938927	COFFEYVILLE TAP - DEARING 138KV CKT 1 (WR) #2	6/9/2010	6/9/2010			$ 2	$ -	$ 2	$ 13
	Fort Randall - Madison County 230kV Ckt 1	12/23/2013	12/23/2013			$ 1,655	$ 815	$ 2,470	$ 3,611
	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ 1,363	$ -	$ 1,363	$ 6,811
	Kingfisher Co Tap - Mathewson 345kV CKT 1	3/1/2018	3/1/2018			$ 888	$ -	$ 888	$ 1,193
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ 406	$ -	$ 406	$ 3,958
	NEOSHO - NORTHEAST PARSONS 138KV CKT 1	6/1/2011	6/1/2011			$ 1	$ -	$ 1	$ 7
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 6,873	$ 3,385	$ 10,258	$ 61,929
	Post Rock 230kV Substation ELLIS CO Addition	9/1/2015	9/1/2015			$ 7,476	$ 3,682	$ 11,158	$ 15,458
	POWER SYSTEM STABILIZERS IN SPS	11/30/2014	11/30/2014			$ 22	$ -	$ 22	$ 31
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ 262	$ -	$ 262	$ 1,143
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ 2,109	$ 1,039	$ 3,148	$ 4,273
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 21,057	$ 8,921	$ 29,978	$ 98,428

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

Customer	Study Number
KMEA	AG2-2017-016

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
KMEA	85938931	WR	SECI	15	6/1/2018	6/1/2033	6/1/2018	6/1/2033	$ 73,713	$ -	$ 108,595	$ 288,479
									$ 73,713	$ -	$ 108,595	$ 288,479

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
85938931	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
85938931	Ft. Dodge - North Ft. Dodge 115 kV Ckt 2	5/1/2015	5/1/2015			$ 19,804	$ 9,754	$ 29,558	$ 41,285
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ 1,861	$ -	$ 1,861	$ 18,119
	Longview - KC South 161kV	6/13/2011	6/13/2011			$ 1,031	$ -	$ 1,031	$ 1,640
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 17,596	$ 8,667	$ 26,263	$ 158,553
	Post Rock 230kV Substation ELLIS CO Addition	9/1/2015	9/1/2015			$ 27,973	$ 13,778	$ 41,751	$ 57,845
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ 5,447	$ 2,683	$ 8,130	$ 11,038
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 73,713	$ 34,882	$ 108,595	$ 288,479

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

Customer	Study Number
KMEA	AG2-2017-017

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
KMEA	85938943	WR	SECI	1	6/1/2018	6/1/2033	6/1/2018	6/1/2033	$ 36,466	$ -	$ 54,426	$ 84,008
									$ 36,466	$ -	$ 54,426	$ 84,008

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
85938943	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
85938943	Albion - Petersburg 115kV Ckt 1 Hansford Upgrade	12/31/2012	12/31/2012			$ 336	$ 166	$ 502	$ 763
	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	12/1/2009	12/1/2009			$ 251	$ 124	$ 375	$ 2,299
	Fort Randall - Madison County 230kV Ckt 1	12/23/2013	12/23/2013			$ 1,067	$ 526	$ 1,593	$ 2,329
	Ft. Dodge - North Ft. Dodge 115 kV Ckt 2	5/1/2015	5/1/2015			$ 17,564	$ 8,651	$ 26,215	$ 36,614
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	12/1/2009	12/1/2009			$ 79	$ 39	$ 119	$ 806
	Neligh - Petersburg North 115kV Ckt 1	11/9/2012	11/9/2012			$ 418	$ 206	$ 624	$ 949
	North Ft. Dodge - Spearville 115kV Ckt 2	5/1/2015	5/1/2015			$ 5,207	$ 2,564	$ 7,771	$ 10,854
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 776	$ 382	$ 1,159	$ 6,995
	Post Rock 230kV Substation ELLIS CO Addition	9/1/2015	9/1/2015			$ 1,866	$ 919	$ 2,785	$ 3,859
	Spearville 345/115 kV Transformer CKT 1	5/1/2015	5/1/2015			$ 8,661	$ 4,266	$ 12,927	$ 18,056
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ 239	$ 118	$ 357	$ 484
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 36,466	$ 17,961	$ 54,426	$ 84,008

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

Customer	Study Number
KMEA	AG2-2017-018

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
KMEA	85938949	WR	WR	1	6/1/2018	6/1/2033	6/1/2018	6/1/2033	$ 6,186	$ -	$ 8,768	$ 23,924
									$ 6,186	$ -	$ 8,768	$ 23,924

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
85938949	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
85938949	FLATRDG3 - HARPER 138KV CKT 1	12/1/2009	12/1/2009			$ 371	$ 182	$ 553	$ 3,605
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ 205	$ -	$ 205	$ 1,993
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	12/1/2009	12/1/2009			$ 65	$ 32	$ 96	$ 657
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 912	$ 449	$ 1,361	$ 8,217
	Post Rock 230kV Substation ELLIS CO Addition	9/1/2015	9/1/2015			$ 1,866	$ 919	$ 2,785	$ 3,859
	Rice - Lyons 115 kV Ckt 1	4/1/2013	4/1/2013			$ 1,743	$ 859	$ 2,602	$ 3,897
	Wheatland 115 kV #2	12/31/2012	12/31/2012			$ 740	$ -	$ 740	$ 1,118
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ 285	$ 140	$ 425	$ 578
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 6,186	$ 2,581	$ 8,768	$ 23,924

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

Customer	Study Number
KMEA	AG2-2017-019

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
KMEA	85957918	NPPD	WFEC	1	1/1/2019	6/1/2024	1/1/2019	6/1/2024	$ 16,923	$ -	$ 16,923	$ 44,210
									$ 16,923	$ -	$ 16,923	$ 44,210

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85957918	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
85957918	Antelope - County Line - 115kV Rebuild	5/1/2017	5/1/2017			$ 815	$ 955
	Battle Creek - County Line 115kV Rebuild	5/1/2017	5/1/2017			$ 778	$ 911
	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	12/1/2009	12/1/2009			$ 1,148	$ 4,947
	Ft. Dodge - North Ft. Dodge 115 kV Ckt 2	5/1/2015	5/1/2015			$ 2,258	$ 2,776
	Kelly - Madison County 230kV Ckt 1	11/1/2014	11/1/2014			$ 395	$ 509
	MEDICINE LODGE - PRATT 115KV CKT 1	12/1/2009	12/1/2009			$ 3,828	$ 15,929
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	12/1/2009	12/1/2009			$ 363	$ 1,736
	North Ft. Dodge - Spearville 115kV Ckt 2	5/1/2015	5/1/2015			$ 999	$ 1,229
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ 2,207	$ 9,867
	Rice County 230/115 kV transformer Ckt 1	10/1/2012	10/1/2012			$ 2,468	$ 3,308
	Spearville 345/115 kV Transformer CKT 1	5/1/2015	5/1/2015			$ 1,662	$ 2,044
					Total	$ 16,923	$ 44,210

*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
MIDW	AG2-2017-020

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
MIDW	85955240	WR	WR	1	6/1/2018	6/1/2033	6/1/2018	6/1/2033	$ -	$ -	$ 2,785	$ 3,859
									$ -	$ -	$ 2,785	$ 3,859

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
85955240	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
85955240	Post Rock 230kV Substation ELLIS CO Addition	9/1/2015	9/1/2015			$ -	$ 2,785	$ 2,785	$ 3,859
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ -	$ 2,785	$ 2,785	$ 3,859

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

Customer	Study Number
MSCG	AG2-2017-021

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
MSCG	85871343	OKGE	EES	106	6/1/2018	5/1/2022	6/1/2018	5/1/2022	$ -	$ 18,273,677	$ 8,197,775	$ 8,197,775
									$ -	$ 18,273,677	$ 8,197,775	$ 8,197,775

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
85871343	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
85871343	Cimarron 345kV Substation CANADIAN CO Addition	12/31/2012	12/31/2012					$ 6,143,714	$ 6,143,714
	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012					$ 522,557	$ 522,557
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010					$ 1,008,947	$ 1,008,947
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012					$ 522,557	$ 522,557
					Total			$ 8,197,775	$ 8,197,775

*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	AG2-2017-022

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
OPPM	85877850	NPPD	OPPD	160	12/1/2018	12/1/2038	12/1/2018	12/1/2038	$ -	$ -	$ 4,615,249	$ 6,612,523
									$ -	$ -	$ 4,615,249	$ 6,612,523

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
85877850	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
85877850	Hoskins 345kV - WAYNE CO Addition (NU)	11/1/2019	11/1/2019			$ -	$ 4,600,000	$ 4,600,000	$ 6,591,194
	Twin Church - Dixon County 230kV Line Upgrade	11/1/2018	11/1/2018			$ -	$ 15,249	$ 15,249	$ 21,329
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ -	$ 4,615,249	$ 4,615,249	$ 6,612,523

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

Customer	Study Number
PEC	AG2-2017-023

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
PEC	85912157	WFEC	WFEC	25	6/1/2018	6/1/2023	6/1/2018	6/1/2023	$ -	$ -	$ 456,581	$ 793,832
									$ -	$ -	$ 456,581	$ 793,832

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
85912157	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
85912157	Gracemont 138kV line terminal addition	10/15/2011	10/15/2011			$ -	$ 4,700	$ 4,700	$ 6,342
	HUGO - VALLIANT 345KV CKT 1	7/1/2012	7/1/2012			$ -	$ 11,962	$ 11,962	$ 41,368
	HUGO 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012			$ -	$ 40,273	$ 40,273	$ 138,287
	Lake Creek - Lone Wolf 69kV Ckt 1 Current Transformers	8/8/2015	8/8/2015			$ -	$ 313,688	$ 313,688	$ 373,900
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ -	$ 41,553	$ 41,553	$ 173,830
	Valliant 345 kV (AEP)	4/17/2012	4/17/2012			$ -	$ 2,302	$ 2,302	$ 7,055
	WASHITA - GRACEMONT 138 KV CKT 2	10/12/2012	10/12/2012			$ -	$ 30,240	$ 30,240	$ 39,506
	Woodward EHV 138kV Phase Shifting Transformer circuit #1	8/2/2017	8/2/2017			$ -	$ 11,863	$ 11,863	$ 13,543
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ -	$ 456,581	$ 456,581	$ 793,832

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

Customer	Study Number
SSCN	AG2-2017-024

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
SSCN	85942802	NPPD	NPPD	1	6/1/2018	2/1/2033	6/1/2018	2/1/2033	$ 65,900	$ -	$ 65,900	$ 89,202
									$ 65,900	$ -	$ 65,900	$ 89,202

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
85942802	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
85942802	Rosemont 115kV Substation	11/1/2017	11/1/2017			$ 65,668	$ -	$ 65,668	$ 88,910
	Twin Church - Dixon County 230kV Line Upgrade	11/1/2018	11/1/2018			$ 232	$ -	$ 232	$ 292
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 65,900	$ -	$ 65,900	$ 89,202

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

Customer	Study Number
WFEC	AG2-2017-025

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
WFEC	85618715	OKGE	WFEC	100	12/1/2018	12/1/2053	12/1/2018	12/1/2053	$ 87,375	$ -	$ 1,642,786	$ 8,303,081
									$ 87,375	$ -	$ 1,642,786	$ 8,303,081

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
85618715	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
85618715	HUGO 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012			$ -	$ 53,074	$ 53,074	$ 488,233
	Minco 345kV Substation	11/1/2010	11/1/2010			$ -	$ 707,921	$ 707,921	$ 1,543,118
	Minco 345kV Substation CADDO CO Addition	8/30/2012	8/30/2012			$ -	$ 304,364	$ 304,364	$ 625,225
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010			$ -	$ 490,053	$ 490,053	$ 5,477,035
	Renfrow-Renfrow Tap 138kV Ckt 1	9/25/2017	9/25/2017			$ 87,375	$ -	$ 87,375	$ 169,470
					Total	$ 87,375	$ 1,555,411	$ 1,642,786	$ 8,303,081

*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.
**Note: CPOs for creditable upgrade(s) may be required based on completion of GI review.

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

Customer	Study Number
WRGS	AG2-2017-026

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
WRGS	85905727	WR	WR	26	6/1/2018	6/1/2023	6/1/2018	6/1/2023	$ 23,958	$ -	$ 832,690	$ 1,046,705
									$ 23,958	$ -	$ 832,690	$ 1,046,705

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
85905727	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
85905727	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	12/1/2009	12/1/2009			$ -	$ 7,561	$ 7,561	$ 30,047
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 6,913	$ 6,913	$ 46,201
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	12/1/2009	12/1/2009			$ -	$ 2,391	$ 2,391	$ 10,551
	Rice - Lyons 115 kV Ckt 1	4/1/2013	4/1/2013			$ -	$ 71,985	$ 71,985	$ 92,533
	Rice County 230/115 kV transformer Ckt 1	10/1/2012	10/1/2012			$ -	$ 28,524	$ 28,524	$ 37,265
	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Addition (NU)	12/31/2016	12/31/2016			$ 3,470	$ -	$ 3,470	$ 4,013
	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Co Addition (NU)	10/16/2016	10/16/2016			$ -	$ 691,357	$ 691,357	$ 799,545
	Wheatland 115 kV #2	12/31/2012	12/31/2012			$ 20,488	$ -	$ 20,488	$ 26,551
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 23,958	$ 808,731	$ 832,690	$ 1,046,705

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

Customer	Study Number
WRGS	AG2-2017-027

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
WRGS	85905742	WR	WR	50	6/1/2018	6/1/2023	6/1/2018	6/1/2023	$ 41,002	$ -	$ 5,761,065	$ 6,823,576
									$ 41,002	$ -	$ 5,761,065	$ 6,823,576

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
85905742	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
85905742	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	12/1/2009	12/1/2009			$ -	$ 14,540	$ 14,540	$ 57,781
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006			$ -	$ 13,295	$ 13,295	$ 88,847
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	12/1/2009	12/1/2009			$ -	$ 4,598	$ 4,598	$ 20,290
	Rice - Lyons 115 kV Ckt 1	4/1/2013	4/1/2013			$ -	$ 138,430	$ 138,430	$ 177,946
	Rice County 230/115 kV transformer Ckt 1	10/1/2012	10/1/2012			$ -	$ 54,852	$ 54,852	$ 71,660
	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Addition (NU)	12/31/2016	12/31/2016			$ 1,602	$ -	$ 1,602	$ 1,853
	Tap Wichita - Thistle 345 kV Ckt 1 & 2 - Pratt Co Addition (NU)	10/16/2016	10/16/2016			$ -	$ 5,494,348	$ 5,494,348	$ 6,354,140
	Wheatland 115 kV #2	12/31/2012	12/31/2012			$ 39,400	$ -	$ 39,400	$ 51,059
*Note: CPOs may be calculated based on estimated upgrade cost and are subject to change.					Total	$ 41,002	$ 5,720,063	$ 5,761,065	$ 6,823,576

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

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

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
BEPC	DICKINSON 230/115/13.8KV CKT 2	Build new 230/115/13.8kV Transformer circuit #2 at Dickinson.	6/1/2022	6/1/2022
OKGE	HANCOCK - MUSKOGEE 161KV CKT 1	Upgrade the Muskogee CT rating from 800 amps to 1200 amps.	6/1/2018	6/1/2019

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

Base Case Violations Projects - Reported for informational purposes only.

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
BEPC	STORLA (KV1A) 230/115/13.2KV TRANSFORMER CKT 1	Replace 230/115/13.2 kV transformer with 200/250 MVA.	1/1/2019	10/1/2020
NPPD	LAMAR - SPRING CREEK 115KV CKT 1	Rebuild 17.2-mile 115 kV line from Lamar to Spring Creek.	6/1/2022	6/1/2022

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
AEPW	Valliant 345 kV (AEP)	Install 345 kV terminal equipment at Valliant substation.	4/17/2012	4/17/2012	$ 531,517.08
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	$ 575,274.48
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	$ 626,520.00
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	$ 3,141,332.12
KCPL	Tap Centerville-Marmaton 161kV ALLEN CO Addition (NU)	Transmission Owner's new 161 kV Interconnection Switch Station: Construct a new ring bus switch station on the 161 kV transmission line between Centerville and Marmaton.; Transmission Owner's Centerville-Marmaton 161 kV transmission line: Transmission Owner will install two (2) new dead-end towers in the line and terminate transmission line to dead-ends in the Transmission Owner Switch Station.; Transmission Owner Switch Station: Install microwave communications for system protection, voice communication, and data telemetry. Commercial phone lines will not be utilized for communications.; Centerville Substation – Install new relays and relay panels.; Allowance Funds Used During Construction and contingency for all Transmission Owner construction.	7/21/2018	7/21/2018	$ 12,059,235.65
MIDW	Post Rock 230kV Substation ELLIS CO Addition	230kV line terminal including one (1) 230kV circuit breaker, disconnect switches, and associated equipment.	9/1/2015	9/1/2015	$ 165,902.40
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	$ 274,376.40
MIDW	Rice County 230/115 kV transformer Ckt 1	Install 230/115 kV transformer at Rice County.	10/1/2012	10/1/2012	$ 152,374.85
MIDW	Wheatland 115 kV #2	Install metering equipment at the Wheatland 115 kV substation.	12/31/2012	12/31/2012	$ 78,727.80
MKEC	CLIFTON - GREENLEAF 115KV CKT 1	Rebuild 14.4 miles	6/1/2011	6/1/2011	$ 112,651.08
MKEC	FLATRDG3 - HARPER 138KV CKT 1	Rebuild 24.15 mile line	12/1/2009	12/1/2009	$ 191,491.38
MKEC	FLATRDG3 - MEDICINE LODGE 138KV CKT 1	Rebuild 8.05 mile line	12/1/2009	12/1/2009	$ 168,860.55
MKEC	Ft. Dodge - North Ft. Dodge 115 kV Ckt 2	Build appoximately 0.5 mile 115 kV line	5/1/2015	5/1/2015	$ 503,461.63
MKEC	GREENLEAF - KNOB HILL 115KV CKT 1 (MKEC)	Rebuild 43.5% Ownership of 20.9 miles	6/1/2013	6/1/2013	$ 11,534.52
MKEC	MEDICINE LODGE - PRATT 115KV CKT 1	Rebuild 26 mile line	12/1/2009	12/1/2009	$ 280,580.74
MKEC	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1	Upgrade transformer	12/1/2009	12/1/2009	$ 154,056.95
MKEC	North Ft. Dodge - Spearville 115kV Ckt 2	Build appoximately 20 mile 115 kV line	5/1/2015	5/1/2015	$ 858,929.58
MKEC	Spearville 345/115 kV Transformer CKT 1	Spearville Substation - Add 345/115kV autotransformer and 345kV and 115kV terminal positions for autotransformer.	5/1/2015	5/1/2015	$ 1,428,805.32
MPS	Longview - KC South 161kV	Install new 161kV wavetrap in place of existing wavetrap	6/13/2011	6/13/2011	$ 1,749.60
NPPD	Albion - Petersburg 115kV Ckt 1 Hansford Upgrade	Replace Breaker Switch 1106-D & jumpers; Replace Petersburg 115kV Substation main bus; Upgrade and replace transmission structures on 115kV lines TL1168 A & B to facilitate 100 degrees Centigrade line operation.	12/31/2012	12/31/2012	$ 763.20
NPPD	Antelope - County Line - 115kV Rebuild	Rebuild/Upgrade the Antelope – County Line 115kV to rerate line segments to greater than 125 MVA.	5/1/2017	5/1/2017	$ 954.85
NPPD	Battle Creek - County Line 115kV Rebuild	Rebuild/Upgrade the Battle Creek – County Line 115kV to rerate line segments to greater than 125 MVA.	5/1/2017	5/1/2017	$ 910.65
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	$ 31,199.40
NPPD	Hoskins - Dixon County 230kV Line Upgrade	Increase clearances to accommodate 320MVA facility rating to address loading issues	10/24/2015	10/24/2015	$ 19,846.08
NPPD	Hoskins 345kV - WAYNE CO Addition (NU)	Hoskins 345 kV Substation – 345 kV substation bus work; add one (1) 345 kV line terminal, four (4) 345 kV circuit breakers, control panel, disconnect switches, and all associated and miscellaneous equipment.	11/1/2019	11/1/2019	$ 6,591,194.40
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	$ 45,608.07
NPPD	Neligh - Petersburg North 115kV Ckt 1	Replace Breaker 1106, jumpers, & 115kV Switch 1106-D2; Replace Petersburg 115kV Substation main bus; Upgrade and replace transmission structures on 115kV lines TL1168 A & B to facilitate 100 degrees Centigrade line operation	11/9/2012	11/9/2012	$ 19,431.36
NPPD	Rosemont 115kV Substation	115kV Substation addition to accommodate new 115kV interconnection & 115kV breakers at Guide Rock due to addition of Rosemont 115kV Substation	11/1/2017	11/1/2017	$ 88,909.92
NPPD	Twin Church - Dixon County 230kV Line Upgrade	Increase clearances to accommodate 320MVA facility rating	11/1/2018	11/1/2018	$ 25,034.84
OKGE	Cimarron 345kV Substation CANADIAN CO Addition	345kV Substation addition including five (5) 345kV circuit breakers, associated disconnect switches, line relaying, and miscellaneous and associated equipment.	12/31/2012	12/31/2012	$ 6,143,713.57
OKGE	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	$ 6,342.00
OKGE	Kingfisher Co Tap - Mathewson 345kV CKT 1	Replace terminal equipment to achieve conductor limit	3/1/2018	3/1/2018	$ 111,817.50
OKGE	Minco 345kV Substation	Route the existing Cimarron to PSO Lawton East Side (LES); line into and out of the new Minco substation	11/01/2010	11/01/2010	$ 1,543,117.80
OKGE	Minco 345kV Substation CADDO CO Addition	345kV Substation addition including one (1) 345kV breaker, line relaying, disconnect switches, and associated equipment.	8/30/2012	8/30/2012	$ 625,224.60
OKGE	NORTHWEST - WOODWARD 345KV CKT 1	Build 345 kV line	1/1/2010	1/1/2010	$ 12,417,648.23
OKGE	Renfrow-Renfrow Tap 138kV Ckt 1	Replace terminal equipment.	9/25/2017	9/25/2017	$ 169,470.00

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

OKGE	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	$ 380,277.63
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	$ 1,237.02
WFEC	Lake Creek - Lone Wolf 69kV Ckt 1 Current Transformers	Replace current transformers at Lake Creek and Lone Wolf substation	8/8/2015	8/8/2015	$ 373,900.20
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	$ 39,505.80
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	$ 12.60
WR	NEOSHO - NORTHEAST PARSONS 138KV CKT 1	Replace bus and Jumpers at NE Parsons 138 kV substation	6/1/2011	6/1/2011	$ 7.20
WR	Tap Centerville-Marmaton 161kV ALLEN CO Addition (WERE)	Westar Energy, Inc. (WERE) Marmaton Substation – change relay settings to accommodate the construction of the Transmission Owner's new 161kV switch station.	7/21/2018	7/21/2018	$ 166,271.70
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	$ 19,454.55
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	$ 18,437,714.55

*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
	None				

Table 7- Service Upgrade Cost Allocation per Request

Upgrade Name	Customer	Study Number	Reservation	Allocation Percentage	Allocated E & C Cost
None	None	None	0	0.00%	$0
				Total:	$0