Aggregate Facility Study SPP-2007-AG1-AFS-9 For Transmission Service Requested by Aggregate Transmission Customers

SPP Engineering, SPP Tariff Studies

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1. Executive Summary

Pursuant to Attachment Z of the Southwest Power Pool Open Access Transmission Tariff (OATT), 1824 MW of long-term transmission service requests have been restudied in this Aggregate Facility Study (AFS). The first phase of the AFS consisted of a revision of the impact study to reflect the withdrawal of requests for which an Aggregate Facility Study Agreement was not executed. 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. Further, Attachment Z provides for facility upgrade cost recovery by stating that "[a]ny charges paid by a customer in excess of the transmission access charges in compensation for the revenue requirements for allocated facility upgrade(s) shall be recovered by such customer from future transmission service revenues until the customer has been fully compensated."

The total assigned facility upgrade Engineering and Construction (E &C) cost determined by the AFS is $103 Million. Additionally an indeterminate amount of assigned E & C cost for 3rd party facility upgrades are assignable to the customer. The total upgrade levelized revenue requirement for all transmission requests is $297 Million. This is based on full allocation of levelized revenue requirements for upgrades to customers without consideration of base plan funding. AFS data table 3 reflects the allocation of upgrade costs to each request without potential base plan funding based on either the requested reservation period or the deferred reservation period if applicable. Total upgrade levelized revenue requirements for all transmission requests after consideration of potential base plan funding is $65 Million.

Third-party facilities must be upgraded when it is determined they are constrained in order to accommodate the requested Transmission Service. These include both first-tier neighboring

facilities outside SPP and Transmission Owner facilities within SPP that are not under the SPP OATT. In this AFS, third-party facilities were identified. Total engineering and construction cost estimates for required third-party facility upgrades are indeterminate.

The Transmission Provider will tender a Letter of Intent on May 29th, 2008. This will open a 15-day window for Customer response. To remain in the Aggregate Transmission Service Study (ATSS), the Transmission Provider must receive from the Transmission Customer (Customer) by June 13th, 2008, an executed Letter of Intent. The Letter of Intent will list options the Customer must choose to clarify their commitment to remain in the ATSS. The only action required on OASIS is to WITHDRAW the request or leave the request in STUDY mode.

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.

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

2. Introduction

On January 21, 2005, the Federal Energy Regulatory Commission accepted Southwest Power Pool's proposed aggregate transmission study procedures in Docket ER05-109 to become effective February 1, 2005. In compliance with this Order, the first open season of 2007 commenced on October 1, 2006. All requests for long-term transmission service received prior to February 1, 2007 with a signed study agreement were then included in this first Aggregate Transmission Service Study (ATSS) of 2007.

Approximately 1824 MW of long-term transmission service has been restudied in this Aggregate Facility Study (AFS) with over $103 Million in transmission upgrades being proposed. The results of the AFS are detailed in Tables 1 through 7. A highly tangible benefit of studying transmission requests aggregately under the SPP OATT Attachment Z is the sharing of costs among customers using the same facility. The detailed results show individual upgrade costs by study as well as potential base plan allowances as determined by Attachments J and Z. The following URL can be used to access the SPP OATT: (http://www.spp.org/Publications/SPP_Tariff.pdf). In order to understand the extent to which base plan upgrades may be applied to both point-to-point and network transmission services, it is necessary to highlight the definition of Designated Resource. Per Section 1.9a of the SPP OATT, a Designated Resource is "[a]ny designated generation resource owned, purchased or leased by a Transmission Customer to serve load in the SPP Region. Designated Resources do not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet the Transmission Customer's load on a non-interruptible basis." Therefore, not only network service, but also point-to-point service has potential for base plan funding if the conditions for classifying upgrades associated with designated resources as base plan upgrades as defined in Section III.B of Attachment J are met.

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

1. Transmission Customer's commitment to the requested new or changed Designated Resource must have a duration of at least five years.

2. During the first year the Designated Resource is planned to be used by the Transmission Customer, the accredited capacity of the Transmission Customer's existing Designated Resources plus the lesser of (a) the planned maximum net

dependable capacity applicable to the Transmission Customer or (b) the requested capacity; shall not exceed 125% of the Transmission Customer's projected system peak responsibility determined pursuant to SPP Criteria 2.

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

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

Transmission Customers paying for a directly assigned network upgrade shall receive credits for new transmission service using the facility as specified in Attachment Z Section VII.

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

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

limited by transmission owner planned projects, expansion plan projects, or customer assigned upgrades.

Some constraints identified in the AFS were not assigned to the Customer as the Transmission Provider determined that upgrades are not required due to various reasons or the Transmission Owner has construction plans pending for these upgrades. These facilities are listed by reservation in Table 3. This table also includes constrained facilities in the current planning horizon that limit the rollover rights of the Transmission Customer. Table 6 lists possible redispatch pairs to allow start of service prior to completion of assigned network upgrades. Table 7 (if applicable) lists deferment of expansion plan projects with different upgrades with the new required in service date as a result of this AFS.

A. Financial Analysis

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

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

facilities, and the carrying charges, excluding depreciation, associated with all removed usable facilities based on their respective book values.

In the event that the engineering and construction of a previously assigned Network Upgrade may be expedited, with no additional upgrades, to accommodate a new request for Transmission Service, then 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 expedited.

Achievable Base Plan Avoided Revenue Requirements 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.B methodology. A deferred Base Plan upgrade being 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 being defined as the same network upgrade being displaced by a requested upgrade needed at an earlier date. Assumption of a 40 year service life is utilized for Base Plan funded projects unless provided otherwise 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.

B. Third Party Facilities

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

All modeled facilities within the Transmission Provider system were monitored during the development of this Study as well as certain facilities in first-tier neighboring systems. Third-party facilities must be upgraded when it is determined that they are overloaded while accommodating the requested Transmission Service. An agreement between the Customer and 3rd Party Owner detailing the mitigation of the 3rd party impact must be provided to the Transmission Provider prior to tendering of a Transmission Service Agreement. These facilities also include those owned by members of the Transmission Provider who have not placed their facilities under the Transmission Provider's OATT. Upgrades on the Southwest Power Administration network requires prepayment of the upgrade cost prior to construction of the upgrade.

Third-party facilities are evaluated for only those requests whose load sinks within the SPP footprint. The Customer must arrange for study of 3rd party facilities for load that sinks outside the SPP footprint with the applicable Transmission Providers.

3. Study Methodology

A. Description

The system impact 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 done to ensure current SPP Criteria and NERC Reliability Standards requirements are fulfilled. The Southwest Power Pool conforms to the NERC Reliability Standards, which provide the strictest requirements, related to voltage violations and thermal overloads during normal conditions and during a contingency. It requires that all facilities 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 MDWG models, respectively. The upper bound and lower bound of the normal voltage range monitored is 110% and 90%. The upper bound and lower bound of the emergency voltage range monitored is 110% 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 98.5% due to transmission operating procedure.

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

A 3 % transfer distribution factor (TDF) cutoff was applied to all SPP control area facilities. For first tier Non – SPP control area facilities, a 3 % TDF cutoff was applied to AECI, AMRN, and ENTR and a 2 % TDF cutoff was applied to MEC, NPPD, and OPPD. 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.

B. Model Development

SPP used eleven seasonal models to study the aggregate transfers of 1359 MW over a variety of requested service periods. The SPP MDWG 2007 Series Cases Update 2 2008 April (08AP), 2008 Spring Peak (08G), 2008 Summer Peak (08SP), 2008 Summer Shoulder (08SH), 2008 Fall Peak (08FA), 2008/09 Winter Peak (08WP), 2009 Summer Peak (09SP), 2009/10 Winter Peak (09WP), 2012 Summer Peak (12SP), 2012/13 Winter Peak (12WP),and 2017 Summer Peak (17SP) were used to study the impact of the requested service on the transmission system. The Spring Peak models apply to April and May, the Summer Peak models apply to June through September, the Fall Peak models apply to October and November, and the Winter Peak models apply to December through March.

The chosen base case models were modified to reflect the most current modeling information. Five groups of requests were developed from the aggregate of 1824 MW in order to minimize counter flows among requested service. Each request was included in at least two of the four groups depending on the requested path. All requests were included in group five. From the twelve seasonal models, five system scenarios were developed. Scenario 1 includes SWPP OASIS transmission requests not already included in the SPP 2007 Series Cases flowing in a West to East direction with ERCOTN HVDC Tie South to North, ERCOTE HVDC Tie East to West, SPS exporting, and SPS importing from the Lamar HVDC Tie. Scenario 2 includes transmission requests not already included in the SPP 2007 Series Cases flowing in an East to West direction with ERCOTN HVDC tie North to South, ERCOTE HVDC tie East to West, SPS importing, and SPS exporting to the Lamar HVDC Tie. Scenario 3 includes transmission requests not already included in the SPP 2007 Series Cases flowing in a South to North direction with ERCOTN HVDC tie South to North, ERCOTE HVDC tie East to West, SPS exporting, and

SPS exporting to the Lamar HVDC Tie. Scenario 4 includes transmission requests not already included in the SPP 2007 Series Cases flowing in a North to South direction with ERCOTN HVDC tie North to South, ERCOTE HVDC tie East to West, SPS importing, and SPS importing from the Lamar HVDC tie. Scenario 5 include all transmission not already included in the SPP 2007 Series Cases with ERCOTN North to South, ERCOTE East to West, SPS importing and SPS exporting to the Lamar HVDC tie. The system scenarios were developed to minimize counter flows from previously confirmed, higher priority requests not included in the MDWG Base Case.

C. Transmission Request Modeling

Network Integration Transmission Service requests are modeled as Generation to Load transfers in addition to Generation to Generation transfers. The Generation to Load modeling is accomplished by developing a pre-transfer case by redispatching the existing designated network resource(s) down by the new designated network resource request amount and scaling down the applicable network load by the same amount proportionally. The post-transfer case for comparison is developed by scaling the network load back to the forecasted amount and dispatching the new designated network resource being requested. Network Integration Transmission Service requests are modeled as Generation to Load transfers in addition to Generation to Generation because the requested Network Integration Transmission Service is a request to serve network load with the new designated network resource and the impacts on transmission system are determined accordingly. If the Network Integration Transmission Service request application clearly documents that the existing designated network resource(s) is being replaced or undesignated by the new designated network resource then MW impact credits will be given to the request as is done for a redirect of existing transmission service. Point-To-Point Transmission Service requests are modeled as Generation to Generation transfers. Generation to Generation transfers are accomplished by developing a post-transfer case for comparison by dispatching the request source and redispatching the request sink.

D. Transfer Analysis

Using the selected cases both with and without the requested transfers modeled, the PSS/E Activity ACCC was run on the cases and compared to determine the facility overloads caused or impacted by the transfer. Transfer distribution factor cutoffs (SPP and 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.

E. Curtailment and Redispatch Evaluation

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

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

was greater than 1 MW, the unit was considered as a potential incremental or decremental unit. Generation shift factors were calculated for the potential incremental and decremental units using Managing and Utilizing System Transmission (MUST). Relief pairs from the generation shift factors for the incremental and decremental units with a greater than 3% TDF on the limiting constraint were determined from the incremental units with the lowest generation shift factors and decremental units with highest generation shift factors. If the aggregate redispatch amount for the potential relief pair was determined to be three times greater than the lower of the increment or decrement then the pair was determined not to be feasible and is not included. If transmission customer would like to see additional relief pairs beyond the relief pairs determined, the transmission customer can request SPP to provide the additional pairs. The potential relief pairs **were not** evaluated to determine impacts on limiting facilities in the SPP and 1st-Tier systems. The redispatch requirements would be called upon prior to implementing NERC TLR Level 5a.

4. Study Results

A. Study Analysis Results

Tables 1 through 6 contain the steady-state analysis results of the AFS. 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), the minimum annual allocated ATC without upgrades and season of first impact. Table 2 identifies total E & C cost allocated to each Transmission Customer, letter of credit requirements, third party E & C cost assignments, potential base plan E & C funding (lower of allocated E & C or Attachment J Section III B criteria) , total revenue requirements for assigned upgrades without consideration of potential base plan funding, point-to-point base rate charge, total revenue requirements for assigned upgrades with consideration of potential base plan funding, and final total cost allocation to the Transmission Customer. 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 customer but required for service to be confirmed, credits to be paid for previously assigned AFS facility upgrades, and any third party upgrades required. Table 4 lists all upgrade requirements with associated solutions needed to provide transmission service for the AFS, Minimum ATC per upgrade with season of impact, Earliest Date Upgrade is required (COD), Estimated Date of Upgrade Completion (EOC), and Estimated E & C cost. Table 5 lists identified Third-Party constrained facilities. Table 6 identifies potential redispatch pairs available to relieve the aggregate impacts on identified constraints to prevent deferral of start of service. Table 7 (if applicable) identifies deferred expansion plan projects that were replaced with requested upgrades at earlier dates.

The potential base plan funding allowable is contingent upon 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 5 year term and 125% resource to load criteria are met, the lesser of the planned maximum net dependable capacity (NDC) or the requested capacity is multiplied by $180,000 to determine the potential base plan funding allowable. When calculating Base Plan Funding amounts that include a wind farm, the amount used is 10% of the requested amount of service, or the NDC. 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 Engineering and Construction Funding Allowable.

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 "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 (140-54) or 86 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 "OR"

pricing of 128 million revenue requirements to be paid back to the Transmission Owners and the remaining revenue requirements of (140-128) or 12 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 "OR" pricing of PTP base rate of 101 million must be paid and the 50 million revenue requirements will be paid from this.

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

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

B. Study Definitions

The Commercial Operation Date (COD) 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. The Total Engineering and Construction Cost (E & C) is the upgrade solution cost as determined by the transmission owner. The Transmission Customer Allocation Cost is the estimated engineering and construction cost based upon the allocation of costs to all Transmission Customers in the AFS who positively impact facilities by at least 3% subsequently overloaded by the AFS. Minimum ATC is the portion of the requested capacity that can be accommodated with out 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.

5. 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.

The Transmission Provider will tender a Letter of Intent on May 29th, 2008. This will open a 15-day window for Customer response. To remain in the Aggregate Transmission Service Study (ATSS), the Transmission Provider must receive from the Transmission Customer (Customer) by June 13th, 2008, an executed Letter of Intent. The Letter of Intent will list options the Customer must choose to clarify their commitment to remain in the ATSS. The only action required on OASIS is to WITHDRAW the request or leave the request in STUDY mode.

The Transmission Provider must receive an unconditional and irrevocable letter of credit in the amount of the total allocated Engineering and Construction costs assigned to the Customer. This letter of credit is not required for those facilities that are base plan funded. This amount is for all assignable Network Upgrades less pre-payment requirements. The amount of the letter of credit will be adjusted down on an annual basis to reflect amortization of these costs. The Transmission Provider will issue letters of authorization to construct facility upgrades to the constructing Transmission Owner. This date is determined by the engineering and construction lead time provided for each facility upgrade.

6. Appendix A

PSS/E CHOICES IN RUNNING LOAD FLOW PROGRAM AND ACCC

BASE CASES:
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 CASES:
Solutions – AC contingency checking (ACCC)
MW mismatch tolerance – 0.5
Contingency case rating – Rate B
Percent of rating – 100
Output code – Summary
Min flow change in overload report – 3mw
Excld cases w/ no overloads form 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
Var limits - Apply automatically
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	Deferred Stop Date without interim redispatch	Start Date with interim redispatch	Stop Date with interim redispatch	Mimimum Allocated ATC (MW) within reservation period	Season of Minimum Allocated ATC within reservation period
EDE	AG1-2007-051	1222640	WPEK	EDE	100	11/1/2008	11/1/2028	6/1/2013	6/1/2033	11/1/2008	11/1/2028	0	08WP
INDP	AG1-2007-045	1221966	OPPD	INDN	6	6/1/2009	6/1/2034	6/1/2011	6/1/2036	6/1/2011	6/1/2036	0	09SP
KBPU	AG1-2007-043D	1221923	SPA	KACY	39	7/1/2010	7/1/2020	6/1/2011	6/1/2021	6/1/2011	6/1/2021	0	12SP
KBPU	AG1-2007-044D	1221925	WR	KACY	25	1/1/2008	1/1/2028	6/1/2011	6/1/2031	6/1/2011	6/1/2031	0	08SP
KCPS	AG1-2007-080	1223159	KCPL	EES	52	6/1/2007	6/1/2012	6/1/2011	6/1/2016	7/1/2008	7/1/2013	0	08SP
KPP	AG1-2007-052	1222644	WR	WR	333	6/1/2007	6/1/2017	6/1/2011	6/1/2021	6/1/2011	6/1/2021	0	08SP
KPP	AG1-2007-054	1222904	WPEK	WPEK	3	6/1/2007	6/1/2017	7/1/2008	7/1/2018	7/1/2008	7/1/2018	0	08SP
KPP	AG1-2007-055	1222932	WR	WR	45	6/1/2007	6/1/2027	6/1/2011	6/1/2031	6/1/2011	6/1/2031	0	08SP
KPP	AG1-2007-056	1222937	WR	WPEK	5	6/1/2007	6/1/2027	6/1/2010	6/1/2030	6/1/2009	6/1/2029	0	08SP
KPP	AG1-2007-058	1222955	WR	WR	20	6/1/2007	6/1/2017	7/1/2008	7/1/2018	7/1/2008	7/1/2018	0	08SP
KPP	AG1-2007-064	1223078	WPEK	WPEK	15	6/1/2007	6/1/2017	6/1/2010	6/1/2020	6/1/2009	6/1/2019	0	08SP
SPRM	AG1-2007-042	1220082	SPA	SPA	275	10/1/2010	10/1/2050					0	12SP
UCU	AG1-2007-023D	1214269	MPS	KCPL	2	6/1/2007	6/1/2012	6/1/2011	6/1/2016	7/1/2008	7/1/2013	0	08SP
UCU	AG1-2007-025D	1214263	MPS	WR	1	6/1/2007	6/1/2012	6/1/2011	6/1/2016	6/1/2010	6/1/2015	0	08SP
UCU	AG1-2007-060D	1223092	EES	MPS	75	3/1/2009	3/1/2029	6/1/2011	6/1/2031	6/1/2010	6/1/2030	0	09SP
UCU	AG1-2007-060D	1223093	EES	MPS	75	3/1/2009	3/1/2029	6/1/2011	6/1/2031	6/1/2010	6/1/2030	0	09SP
UCU	AG1-2007-060D	1223094	EES	MPS	75	3/1/2009	3/1/2029	6/1/2011	6/1/2031	6/1/2010	6/1/2030	0	09SP
UCU	AG1-2007-060D	1223095	EES	MPS	75	3/1/2009	3/1/2029	6/1/2011	6/1/2031	6/1/2010	6/1/2030	0	09SP
WRGS	AG1-2007-001D	1197077	EDE	WR	32	9/1/2007	9/1/2018	6/1/2013	6/1/2024	6/1/2013	6/1/2024	0	08SP
WRGS	AG1-2007-047D	1222005	WR	EES	106	10/1/2007	10/1/2010	6/1/2011	6/1/2014	6/1/2011	6/1/2014	0	08SP
					1359								

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	1Letter of Credit Amount Required	2Potential Base Plan Engineering and Construction Funding Allowable	Notes	4Additional Engineering and Construction Cost for 3rd Party Upgrades	3 Total Revenue Requirements for Assigned Upgrades Over Term of Reservation WITHOUT Potential Base Plan Funding Allocation	3 5 Total Revenue Requirements for Assigned Upgrades Over Term of Reservation WITH Potential Base Plan Funding Allocation	Point-to-Point Base Rate Over Reservation Period	4Total Cost of Reservation Assignable to Customer Contingent Upon Base Plan Funding
EDE	AG1-2007-051	1222640	$ 14,731,192	$ -	$ 14,731,192		Indeterminate	$ 37,408,184	$ -	$ -	Schedule 9 Charges
INDP	AG1-2007-045	1221966	$ 58,185	$ 58,185	$ -		$ -	$ 257,252	$ 257,252	$ 1,584,000	$ 1,584,000
KBPU	AG1-2007-043D	1221923	$ 1,278,303	$ 1,278,303	$ -		$ -	$ 3,276,440	$ 3,276,440	$ 4,118,400	$ 4,118,400
KBPU	AG1-2007-044D	1221925	$ 219,252	$ 219,252	$ -		$ -	$ 827,589	$ 827,589	$ 5,280,000	$ 5,280,000
KCPS	AG1-2007-080	1223159	$ -	$ -	$ -		$ -	$ -	$ -	$ 2,808,000	$ 2,808,000
KPP	AG1-2007-052	1222644	$ 31,254,689	$ -	$ 31,254,689		$ -	$ 81,760,298	$ -	$ -	Schedule 9 Charges
KPP	AG1-2007-054	1222904	$ -	$ -	$ -		$ -	$ -	$ -	$ -	Schedule 9 Charges
KPP	AG1-2007-055	1222932	$ 12,819,426	$ 4,719,426	$ 8,100,000		$ -	$ 45,384,365	$ 16,708,092	$ -	$ 16,708,092
KPP	AG1-2007-056	1222937	$ 552,544	$ -	$ 552,544		$ -	$ 1,483,003	$ -	$ -	Schedule 9 Charges
KPP	AG1-2007-058	1222955	$ -	$ -	$ -		$ -	$ -	$ -	$ -	Schedule 9 Charges
KPP	AG1-2007-064	1223078	$ 539,722	$ -	$ 539,722		$ -	$ 1,001,863	$ -	$ -	Schedule 9 Charges
SPRM	AG1-2007-042	1220082	$ 1,464,000	$ -	$ 1,464,000		$ -	$ 5,512,744	$ -	$ -	Schedule 9 Charges
UCU	AG1-2007-025D	1214263	$ 2,213	$ 2,213	$ -		$ -	$ 5,229	$ 5,229	$ 109,560	$ 109,560
UCU	AG1-2007-023D	1214269	$ 20	$ 20	$ -		$ -	$ 43	$ 43	$ 105,600	$ 105,600
UCU	AG1-2007-060D	1223092	$ 3,875,785	$ 2,035,069	$ -		Indeterminate	$ 10,506,966	$ 10,506,966	$ 28,998,000	$ 28,998,000
UCU	AG1-2007-060D	1223093	$ 3,875,785	$ 2,035,069	$ -		Indeterminate	$ 10,506,966	$ 10,506,966	$ 28,998,000	$ 28,998,000
UCU	AG1-2007-060D	1223094	$ 3,875,785	$ 2,035,069	$ -		Indeterminate	$ 10,506,966	$ 10,506,966	$ 28,998,000	$ 28,998,000
UCU	AG1-2007-060D	1223095	$ 3,875,785	$ 2,035,069	$ -		Indeterminate	$ 10,506,966	$ 10,506,966	$ 28,998,000	$ 28,998,000
WRGS	AG1-2007-001D	1197077	$ 42,416	$ -	$ 42,416		$ -	$ 137,553	$ -	$ -	Schedule 9 Charges
WRGS	AG1-2007-047D	1222005	$ 208,555	$ 104,812	$ -		$ -	$ 495,199	$ 495,199	$ 3,434,400	$ 3,434,400
Grand Total			$ 78,673,656					$ 219,577,626	$ 63,597,708		

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 not required for base plan funded upgrades. The Letter Of Credit Amount listed is based on meeting OATT Attachment J requirements for base plan funding.

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

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

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

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

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

Customer	Study Number
EDE	AG1-2007-051

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
EDE	1222640	WPEK	EDE	100	11/1/2008	11/1/2028	6/1/2013	6/1/2033	$ 14,731,192	$ -	$ 14,731,192	$ 37,408,185
									$ 14,731,192	$ -	$ 14,731,192	$ 37,408,185

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1222640	CONCORDIA - JEWELL 3 115KV CKT 1	6/1/2013	6/1/2013			$ 6,014,871	$ 6,447,839	$ 15,075,746
	East Manhattan - SW Manhattan 115kV Displacement	6/1/2011	6/1/2011			$ 331,892	$ 386,740	$ 1,018,451
	EAST MANHATTAN (EMANHT3X) 230/115/18.0KV TRANSFORMER CKT 2 Displacement	6/1/2011	6/1/2011			$ 301,643	$ 359,219	$ 925,628
	East Manhattan to Mcdowell 230 kV Displacement	6/1/2011	6/1/2011			$ 100,046	$ 115,877	$ 307,003
	JEWELL 3 - SMITH CENTER 115KV CKT 1	6/1/2013	6/1/2013			$ 7,903,262	$ 8,472,161	$ 19,808,832
	SUB 271 - BAXTER SPRINGS WEST - SUB 404 - HOCKERVILLE 69KV CKT 1 Displacement	12/1/2008	4/1/2009		Yes	$ 20,564	$ 20,564	$ 68,051
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 58,914	$ 238,266	$ 204,474
					Total	$ 14,731,192	$ 16,040,666	$ 37,408,185

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222640	ANZIO - FORT JUNCTION SWITCHING STATION 115KV CKT 1	6/1/2009	6/1/2009		
	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2	6/1/2016	6/1/2016		
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	BONANZA - NORTH HUNTINGTON 69KV	6/1/2013	6/1/2013		
	BULL SHOALS - BULL SHOALS 161KV CKT 1	6/1/2009	6/1/2010		Yes
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	EAST 20MVAR CAPACITOR	6/1/2009	6/1/2010		
	JAMESVILLE - SUB 415 - BLACKHAWK JCT. 69KV CKT 1 EMDE	6/1/2014	6/1/2014		
	JOPLIN 59 - SUB 439 - STATELINE 161KV CKT 1	6/1/2012	6/1/2013		Yes
	JOPLIN 59 - SUB 59 - JOPLIN 26TH ST. 161/69kV TRANSFORMER CKT 1	6/1/2012	6/1/2013		Yes
	KERR - PENSACOLA 115KV CKT 1	12/1/2012	12/1/2012		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	SUB 124 - AURORA H.T. - SUB 152 - MONETT H.T. 69KV CKT 1	6/1/2009	6/1/2009		
	SUB 124 - AURORA H.T. 161KV	6/1/2013	6/1/2013		
	SUB 145 - JOPLIN WEST 7TH - SUB 64 - JOPLIN 10TH ST. 69KV CKT 1	6/1/2010	6/1/2010		
	SUB 152 - MONETT H.T. - SUB 383 - MONETT 69KV CKT 1	6/1/2009	6/1/2009		
	SUB 170 - NICHOLS ST. - SUB 80 - MARSHFIELD JCT. 69KV CKT 1	6/1/2009	6/1/2011		Yes
	SUB 383 - MONETT - SUB 376 - MONETT CITY SOUTH 161/69/12.5KV TRANSFORMER CKT 1	6/1/2013	6/1/2013		
	SUB 438 - RIVERSIDE 161KV	6/1/2011	6/1/2011		
	SUB 73 - BOLIVAR BURNS 69KV	6/1/2013	6/1/2013		

Credits may be required for the following network upgrades directly assigned to transmission customers in previous aggregate study.

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222640	SUB 110 - ORONOGO JCT. - SUB 167 - RIVERTON 161KV CKT 1	6/1/2011	6/1/2011		

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222640	BATTLEFIELD - SOUTHWEST DISPOSAL 161KV CKT 1	6/1/2013	6/1/2013		
	SOUTHWEST - SOUTHWEST DISPOSAL 161KV CKT 1	6/1/2013	6/1/2013		

Third Party Limitations.

Reservation	Upgrade Name	COD	EOC	Earliest Service Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost
1222640	5ST JOE 161.00 - EVERTON 161KV CKT 1	10/1/2008	10/1/2008			$ -	$ -
	EVERTON - HARRISON-EAST 161KV CKT 1	12/1/2008	12/1/2008			$ -	$ -
	HARRISON-EAST - SUMMIT 161KV CKT 1	6/1/2011	6/1/2011			$ -	$ -
	HUBEN (HUBEN) 345/161/13.8KV TRANSFORMER CKT 1	6/1/2016	6/1/2016			$ -	$ -
	JAMESVILLE - SUB 415 - BLACKHAWK JCT. 69KV CKT 1 AECI	6/1/2014	6/1/2014			$ -	$ -
					Total	$ -	$ -

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

Customer	Study Number
INDP	AG1-2007-045

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
INDP	1221966	OPPD	INDN	6	6/1/2009	6/1/2034	6/1/2011	6/1/2036	$ -	$ 1,584,000	$ 58,185	$ 257,251
									$ -	$ 1,584,000	$ 58,185	$ 257,251

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1221966	COOK - ST JOE 161KV CKT 1	6/1/2010	6/1/2010			$ 40,214	$ 4,400,000	$ 172,336
	CRAIG - PFLUMM 161KV CKT 1	6/1/2016	6/1/2016			$ 5,003	$ 200,000	$ 18,536
	MARTIN CITY - REDEL 161KV CKT 1	6/1/2009	6/1/2011			$ 11,763	$ 2,000,000	$ 60,613
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 1,205	$ 238,266	$ 5,767
					Total	$ 58,185	$ 6,838,266	$ 257,251

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1221966	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	GRANDVIEW EAST - MARTIN CITY 161KV CKT 1 #2	7/1/2008	6/1/2010		
	MERRIAM - ROELAND PARK 161KV CKT 1	6/1/2017	6/1/2017		
	REDEL - STILWELL 161KV CKT 1	7/1/2008	6/1/2011		
	SHRANK ROAD - SUB I 69KV CKT 1	6/1/2012	6/1/2012		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	SUBSTATION M 161/69KV TRANSFORMER CKT 2	6/1/2010	6/1/2011		

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

Customer	Study Number
KBPU	AG1-2007-043D

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
KBPU	1221923	SPA	KACY	39	7/1/2010	7/1/2020	6/1/2011	6/1/2021	$ -	$ 4,118,400	$ 1,278,303	$ 3,276,440
									$ -	$ 4,118,400	$ 1,278,303	$ 3,276,440

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1221923	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1	6/1/2008	6/1/2011			$ 367,814	$ 7,200,000	$ 934,237
	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1	6/1/2009	6/1/2011			$ 669,217	$ 13,100,000	$ 1,678,995
	COOK - ST JOE 161KV CKT 1	6/1/2010	6/1/2010			$ 147,414	$ 4,400,000	$ 386,344
	CRAIG - PFLUMM 161KV CKT 1	6/1/2016	6/1/2016			$ 18,763	$ 200,000	$ 42,221
	MARTIN CITY - REDEL 161KV CKT 1	6/1/2009	6/1/2011			$ 60,252	$ 2,000,000	$ 188,536
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 14,843	$ 238,266	$ 46,107
					Total	$ 1,278,303	$ 27,138,266	$ 3,276,440

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1221923	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	REDEL - STILWELL 161KV CKT 1	7/1/2008	6/1/2011		
	STRANGER CREEK - NW LEAVENWORTH 115KV	6/1/2010	6/1/2010		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	SUB 124 - AURORA H.T. 161KV	6/1/2013	6/1/2013		
	SUB 438 - RIVERSIDE 161KV	6/1/2011	6/1/2011		
	WEST GARDNER (WGARD 11) 345-161-13_8KV TRANSFORMER CKT 11	7/1/2008	6/1/2008		

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

Customer	Study Number
KBPU	AG1-2007-044D

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
KBPU	1221925	WR	KACY	25	1/1/2008	1/1/2028	6/1/2011	6/1/2031	$ -	$ 5,280,000	$ 219,251	$ 827,590
									$ -	$ 5,280,000	$ 219,251	$ 827,590

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1221925	COOK - ST JOE 161KV CKT 1	6/1/2010	6/1/2010			$ 98,528	$ 4,400,000	$ 363,596
	CRAIG - PFLUMM 161KV CKT 1	6/1/2016	6/1/2016			$ 20,187	$ 200,000	$ 64,282
	MARTIN CITY - REDEL 161KV CKT 1	6/1/2009	6/1/2011			$ 51,076	$ 2,000,000	$ 226,083
	PLATTE CITY - SMITHVILLE 161KV CKT 1	12/1/2012	12/1/2012			$ 30,983	$ 180,000	$ 96,288
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 18,477	$ 238,266	$ 77,341
					Total	$ 219,251	$ 7,018,266	$ 827,590

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1221925	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2	6/1/2016	6/1/2016		
	BELTON SOUTH - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2010		
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	HARPER 138KV Capacitor	7/1/2008	6/1/2009		
	MARTIN CITY - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2011		
	PRATT 138KV Capacitor	7/1/2008	6/1/2009		
	REDEL - STILWELL 161KV CKT 1	7/1/2008	6/1/2011		
	STRANGER CREEK - NW LEAVENWORTH 115KV	6/1/2010	6/1/2010		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	Summit - NE Saline 115 kV	7/1/2008	6/1/2010		
	WEST GARDNER (WGARD 11) 345-161-13_8KV TRANSFORMER CKT 11	7/1/2008	6/1/2008		

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1221925	PHILLIPSBURG - RHOADES 115 kV	7/1/2008	6/1/2009		

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

Customer	Study Number
KCPS	AG1-2007-080

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	1223159	KCPL	EES	52	6/1/2007	6/1/2012	6/1/2011	6/1/2016	$ -	$ 2,808,000	$ 44,345	$ 88,181
									$ -	$ 2,808,000	$ 44,345	$ 88,181

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1223159	MARTIN CITY - REDEL 161KV CKT 1	6/1/2009	6/1/2011		Yes	$ 44,345	$ 2,000,000	$ 88,181
					Total	$ 44,345	$ 2,000,000	$ 88,181

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1223159	BLUE SPRINGS EAST - DUNCAN ROAD 161KV CKT 1	7/1/2008	6/1/2010		Yes
	GRANDVIEW EAST - MARTIN CITY 161KV CKT 1 #2	7/1/2008	6/1/2010		Yes
	MARTIN CITY - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2011		
	REDEL - STILWELL 161KV CKT 1	7/1/2008	6/1/2011		Yes
	STRANGER CREEK - NW LEAVENWORTH 115KV	6/1/2010	6/1/2010		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		

Credits may be required for the following network upgrades directly assigned to transmission customers in previous aggregate study.

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1223159	HUGO POWER PLANT - VALLIANT 345 KV AEPW	6/1/2011	6/1/2011		
	HUGO POWER PLANT - VALLIANT 345 KV WFEC	6/1/2011	6/1/2011		

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

Customer	Study Number
KPP	AG1-2007-052

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
KPP	1222644	WR	WR	333	6/1/2007	6/1/2017	6/1/2011	6/1/2021	$ 31,254,688	$ -	$ 31,254,688	$ 81,760,299
									$ 31,254,688	$ -	$ 31,254,688	$ 81,760,299

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1222644	ALLEN - LEHIGH TAP 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 1,921,241	$ 2,363,907	$ 5,011,515
	ALLEN 69KV Capacitor	6/1/2008	6/1/2010		No	$ 407,245	$ 500,000	$ 1,159,361
	ALTOONA EAST 69KV Capacitor	6/1/2008	6/1/2010		No	$ 161,908	$ 200,000	$ 460,926
	ARKANSAS CITY - PARIS 69KV CKT 1 #1 Displacement	6/1/2008	6/1/2009		Yes	$ 7,103	$ 9,889	$ 21,797
	ASH GROVE JCT2 - TIOGA 69KV CKT 1	6/1/2011	6/1/2011			$ 631,316	$ 767,000	$ 1,703,214
	ATHENS 69KV Capacitor	6/1/2008	6/1/2010		No	$ 407,245	$ 500,000	$ 1,159,361
	Athens to Owl Creek 69 kV	6/1/2008	6/1/2011		Yes	$ 1,030,466	$ 1,208,769	$ 2,687,948
	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1	6/1/2008	6/1/2011		Yes	$ 3,887,227	$ 7,200,000	$ 9,873,441
	BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 2,219,020	$ 2,600,000	$ 5,986,645
	BURLINGTON JUNCTION - WOLF CREEK 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 1,034,710	$ 1,480,000	$ 2,791,521
	CHANUTE TAP - TIOGA 69KV CKT 1	6/1/2011	6/1/2011			$ 81,937	$ 100,000	$ 221,056
	CITY OF IOLA - UNITED NO. 9 CONGER 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 1,193,612	$ 1,440,000	$ 3,220,220
	COFFEY COUNTY NO. 3 WESTPHALIA - GREEN 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 2,799,380	$ 3,280,000	$ 7,552,386
	COFFEYVILLE TAP - DEARING 138KV CKT 1 WERE #2	6/1/2008	6/1/2010			$ 163,414	$ 200,000	$ 465,213
	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1	6/1/2009	6/1/2011		Yes	$ 7,072,593	$ 13,100,000	$ 17,744,392
	CRESWELL - OAK 69KV CKT 1 #1 Displacement	6/1/2008	6/1/2009		Yes	$ 28,486	$ 39,545	$ 86,598
	DEARING 138KV Capacitor Displacement	6/1/2008	6/1/2010			$ 70,427	$ 85,362	$ 200,495
	Green to Vernon 69 kV	6/1/2008	6/1/2011		Yes	$ 2,531,586	$ 2,966,229	$ 6,603,587
	LEHIGH TAP - OWL CREEK 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 2,978,856	$ 3,494,292	$ 7,770,281
	LEHIGH TAP - UNITED NO. 9 CONGER 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 201,521	$ 236,391	$ 525,663
	NEOSHO - NORTHEAST PARSONS 138KV CKT 1	6/1/2009	6/1/2009			$ 197,803	$ 250,000	$ 606,983
	TIOGA 69KV Capacitor	6/1/2008	6/1/2010		No	$ 407,245	$ 500,000	$ 1,159,361
	Vernon to Athens 69 kV	6/1/2008	6/1/2011		Yes	$ 1,820,347	$ 2,132,879	$ 4,748,335
					Total	$ 31,254,688	$ 44,654,263	$ 81,760,299

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222644	Fort Scott - SW Bourbon 161 kV	6/1/2010	6/1/2010		
	ROSE HILL JUNCTION - WEAVER 69KV CKT 1	7/1/2008	6/1/2009		Yes

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222644	COFFEYVILLE TAP - DEARING 138KV CKT 1 AEPW	7/1/2008	6/1/2010		Yes
	COFFEYVILLE TAP - DEARING 138KV CKT 1 WERE	7/1/2008	6/1/2010		Yes
	Sooner to Rose Hill 345 kV OKGE	7/1/2008	12/1/2010		Yes
	Sooner to Rose Hill 345 kV WERE	7/1/2008	12/1/2010		Yes

*Reservation 1222644 and 1222955 were studied as one request

**A Transmission Operating Directive will need to be developed to document the minimum allowable generation per season in order maintain system reliability and evaluation of short term transmission service requests.

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

Customer	**Study Number**
KPP	AG1-2007-054

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**
KPP	1222904	WPEK	WPEK	3	6/1/2007	6/1/2017	7/1/2008	7/1/2018	$ -	$ -	$ -	$ -
									$ -	$ -	$ -	$ -

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1222904	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Reservation 1223078 and 1222904 were studied as one request

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

Customer	Study Number
KPP	AG1-2007-055

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
KPP	1222932	WR	WR	45	6/1/2007	6/1/2027	6/1/2011	6/1/2031	$ 8,100,000	$ -	$ 12,819,426	$ 45,384,360
									$ 8,100,000	$ -	$ 12,819,426	$ 45,384,360

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1222932	ALLEN - LEHIGH TAP 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 442,666	$ 2,363,907	$ 1,556,489
	ALLEN 69KV Capacitor	6/1/2008	6/1/2010		No	$ 92,755	$ 500,000	$ 355,818
	ALTOONA EAST 69KV Capacitor	6/1/2008	6/1/2010		No	$ 38,092	$ 200,000	$ 146,125
	ARKANSAS CITY - PARIS 69KV CKT 1 #1 Displacement	6/1/2008	6/1/2009		Yes	$ 2,786	$ 9,889	$ 11,519
	ASH GROVE JCT2 - TIOGA 69KV CKT 1	6/1/2011	6/1/2011			$ 135,684	$ 767,000	$ 493,439
	ATHENS 69KV Capacitor	6/1/2008	6/1/2010		No	$ 92,755	$ 500,000	$ 355,818
	Athens to Owl Creek 69 kV	6/1/2008	6/1/2011		Yes	$ 178,303	$ 1,208,769	$ 626,944
	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1	6/1/2008	6/1/2011		Yes	$ 743,335	$ 7,200,000	$ 2,625,012
	BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 380,980	$ 2,600,000	$ 1,385,502
	BURLINGTON JUNCTION - WOLF CREEK 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 445,290	$ 1,480,000	$ 1,619,377
	CHANUTE TAP - TIOGA 69KV CKT 1	6/1/2011	6/1/2011			$ 18,063	$ 100,000	$ 65,689
	CITY OF IOLA - UNITED NO. 9 CONGER 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 246,388	$ 1,440,000	$ 896,034
	CITY OF WINFIELD - RAINBOW 69KV CKT 1	6/1/2008	6/1/2011		No	$ 1,645,279	$ 1,645,279	$ 5,785,082
	COFFEY COUNTY NO. 3 WESTPHALIA - GREEN 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 480,620	$ 3,280,000	$ 1,747,861
	COFFEYVILLE TAP - DEARING 138KV CKT 1 WERE #2	6/1/2008	6/1/2010			$ 34,653	$ 200,000	$ 132,933
	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1	6/1/2009	6/1/2011		Yes	$ 1,352,458	$ 13,100,000	$ 4,717,636
	CRESWELL - OAK 69KV CKT 1 #1 Displacement	6/1/2008	6/1/2009		Yes	$ 11,059	$ 39,545	$ 45,299
	DEARING 138KV Capacitor Displacement	6/1/2008	6/1/2010			$ 14,935	$ 85,362	$ 57,291
	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1 Displacement	6/1/2013	6/1/2013			$ 381,729	$ 467,569	$ 1,244,003
	East Manhattan - SW Manhattan 115kV Displacement	6/1/2011	6/1/2011			$ 47,846	$ 386,740	$ 177,095
	EAST MANHATTAN (EMANHT3X) 230/115/18.0KV TRANSFORMER CKT 2 Displacement	6/1/2011	6/1/2011			$ 43,478	$ 359,219	$ 160,925
	East Manhattan to Mcdowell 230 kV Displacement	6/1/2011	6/1/2011			$ 15,247	$ 115,877	$ 56,435
	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1 Displacement	6/1/2010	6/1/2010			$ 42,468	$ 54,538	$ 162,912
	Green to Vernon 69 kV	6/1/2008	6/1/2011		Yes	$ 434,643	$ 2,966,229	$ 1,528,279
	LEHIGH TAP - OWL CREEK 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 515,436	$ 3,494,292	$ 1,812,361
	LEHIGH TAP - UNITED NO. 9 CONGER 69KV CKT 1	6/1/2008	6/1/2011		Yes	$ 34,870	$ 236,391	$ 122,609
	NEOSHO - NORTHEAST PARSONS 138KV CKT 1	6/1/2009	6/1/2009			$ 49,880	$ 250,000	$ 206,252
	OAK - RAINBOW 69KV CKT 1	6/1/2008	6/1/2011			$ 3,949,405	$ 3,949,405	$ 13,886,784
	OXFORD 138KV Capacitor Displacement	6/1/2008	6/1/2010		No	$ 78,766	$ 116,323	$ 302,155
	RICHLAND - ROSE HILL JUNCTION 69KV CKT 1 Displacement	6/1/2008	6/1/2011			$ 444,111	$ 444,111	$ 1,561,570
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 20,159	$ 238,266	$ 84,378
	TIOGA 69KV Capacitor	6/1/2008	6/1/2010		No	$ 92,755	$ 500,000	$ 355,818
	Vernon to Athens 69 kV	6/1/2008	6/1/2011		Yes	$ 312,532	$ 2,132,879	$ 1,098,916
					Total	$ 12,819,426	$ 52,431,590	$ 45,384,360

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

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222932	95TH & WAVERLY - CAPTAIN JUNCTION 115KV CKT 1	6/1/2017	6/1/2017		
	ANZIO - FORT JUNCTION SWITCHING STATION 115KV CKT 1	6/1/2009	6/1/2009		
	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2	6/1/2016	6/1/2016		
	BISMARK JUNCTION SWITCHING STATION - FARMERS CONSUMER CO-OP 115KV CKT 1	6/1/2015	6/1/2015		
	BISMARK JUNCTION SWITCHING STATION - MIDLAND JUNCTION 115KV CKT 1	6/1/2015	6/1/2015		
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	BONANZA - NORTH HUNTINGTON 69KV	6/1/2013	6/1/2013		
	CHAPMAN - CLAY CENTER JUNCTION 115KV CKT 1	7/1/2008	6/1/2010		Yes
	CLAY CENTER - GREENLEAF 115KV CKT 1	7/1/2008	6/1/2010		Yes
	COWSKIN - WESTLINK 69KV	6/1/2010	6/1/2010		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	FARMERS CONSUMER CO-OP - WAKARUSA JUNCTION SWITCHING STATION 115KV CKT 1	6/1/2017	6/1/2017		
	Fort Scott - SW Bourbon 161 kV	6/1/2010	6/1/2010		
	GILL ENERGY CENTER EAST - GILLJCT2 69.000 69KV CKT 1	7/1/2008	6/1/2009		Yes
	GILL ENERGY CENTER EAST - INTERSTATE 138KV CKT 1	6/1/2016	6/1/2016		
	HARPER 138KV Capacitor	7/1/2008	6/1/2009		No
	HOOVER SOUTH - TYLER 69KV	6/1/2010	6/1/2010		
	LAWRENCE HILL - MOCKINGBIRD HILL SWITCHING STATION 115KV CKT 1	6/1/2017	6/1/2017		
	PRATT 138KV Capacitor	7/1/2008	6/1/2009		No
	ROSE HILL JUNCTION - WEAVER 69KV CKT 1	7/1/2008	6/1/2009		Yes
	SOUTHWEST LAWRENCE - WAKARUSA JUNCTION SWITCHING STATION 115KV CKT 1	6/1/2016	6/1/2016		
	STRANGER CREEK - NW LEAVENWORTH 115KV	6/1/2010	6/1/2010		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	Summit - NE Saline 115 kV	7/1/2008	6/1/2010		Yes
	TYLER - WESTLINK 69KV	6/1/2010	6/1/2010		

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222932	CHASE - WHITE JUNCTION 69KV CKT 1	7/1/2008	6/1/2009		Yes
	CIRCLE - RENO COUNTY 115KV CKT 2	6/1/2009	6/1/2009		
	COFFEYVILLE TAP - DEARING 138KV CKT 1 AEPW	7/1/2008	6/1/2010		Yes
	COFFEYVILLE TAP - DEARING 138KV CKT 1 WERE	7/1/2008	6/1/2010		Yes
	RENO - SUMMIT 345KV	7/1/2008	12/1/2008		No
	WICHITA - RENO 345KV	7/1/2008	12/1/2008		Yes

*A Transmission Operating Directive will need to be developed to document the minimum allowable generation per season in order maintain system reliability and evaluation of short term transmission service requests.

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

Customer	Study Number
KPP	AG1-2007-056

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
KPP	1222937	WR	WPEK	5	6/1/2007	6/1/2027	6/1/2010	6/1/2030	$ 552,445	$ -	$ 552,545	$ 1,483,003
									$ 552,445	$ -	$ 552,545	$ 1,483,003

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1222937	CONCORDIA - JEWELL 3 115KV CKT 1	6/1/2013	6/1/2013			$ 199,721	$ 6,447,839	$ 527,556
	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1 Displacement	6/1/2013	6/1/2013			$ 74,773	$ 467,569	$ 210,764
	East Manhattan - SW Manhattan 115kV Displacement	6/1/2011	6/1/2011			$ 3,614	$ 386,740	$ 11,567
	EAST MANHATTAN (EMANHT3X) 230/115/18.0KV TRANSFORMER CKT 2 Displacement	6/1/2011	6/1/2011			$ 3,287	$ 359,219	$ 10,520
	East Manhattan to Mcdowell 230 kV Displacement	6/1/2011	6/1/2011			$ 379	$ 115,877	$ 1,212
	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1 Displacement	6/1/2010	6/1/2010			$ 6,683	$ 54,538	$ 22,176
	JEWELL 3 - SMITH CENTER 115KV CKT 1	6/1/2013	6/1/2013			$ 262,424	$ 8,472,161	$ 693,183
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 1,664	$ 238,266	$ 6,025
					Total	$ 552,545	$ 16,542,209	$ 1,483,003

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222937	95TH & WAVERLY - CAPTAIN JUNCTION 115KV CKT 1	6/1/2017	6/1/2017		
	ANZIO - FORT JUNCTION SWITCHING STATION 115KV CKT 1	6/1/2009	6/1/2009		
	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2	6/1/2016	6/1/2016		
	BISMARK JUNCTION SWITCHING STATION - FARMERS CONSUMER CO-OP 115KV CKT 1	6/1/2015	6/1/2015		
	BISMARK JUNCTION SWITCHING STATION - MIDLAND JUNCTION 115KV CKT 1	6/1/2015	6/1/2015		
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	CHAPMAN - CLAY CENTER JUNCTION 115KV CKT 1	7/1/2008	6/1/2010		
	Cimarron Plant Substation Expansion	6/1/2012	6/1/2012		
	CLAY CENTER - GREENLEAF 115KV CKT 1	7/1/2008	6/1/2010		
	COWSKIN - WESTLINK 69KV	6/1/2010	6/1/2010		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	FARMERS CONSUMER CO-OP - WAKARUSA JUNCTION SWITCHING STATION 115KV CKT 1	6/1/2017	6/1/2017		
	GILL ENERGY CENTER EAST - INTERSTATE 138KV CKT 1	6/1/2016	6/1/2016		
	HARPER 138KV Capacitor	7/1/2008	6/1/2009		No
	HOLCOMB - PLYMELL 115KV CKT 1	12/1/2009	6/1/2010		Yes
	HOOVER SOUTH - TYLER 69KV	6/1/2010	6/1/2010		
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 MIDW	6/1/2016	6/1/2016		
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 WERE	6/1/2016	6/1/2016		
	HUNTSVILLE - ST JOHN 115KV CKT 1	6/1/2016	6/1/2016		
	LAWRENCE HILL - MOCKINGBIRD HILL SWITCHING STATION 115KV CKT 1	6/1/2017	6/1/2017		
	NORTH CIMARRON CAPACITOR	6/1/2012	6/1/2012		
	PIONEER TAP - PLYMELL 115KV CKT 1	12/1/2009	6/1/2010		Yes
	PRATT - ST JOHN 115KV CKT 1	6/1/2017	6/1/2017		
	PRATT 138KV Capacitor	7/1/2008	6/1/2009		No
	SOUTHWEST LAWRENCE - WAKARUSA JUNCTION SWITCHING STATION 115KV CKT 1	6/1/2016	6/1/2016		
	STRANGER CREEK - NW LEAVENWORTH 115KV	6/1/2010	6/1/2010		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	Summit - NE Saline 115 kV	7/1/2008	6/1/2010		Yes
	TUCO INTERCHANGE 345/115KV TRANSFORMER CKT 1	6/1/2017	6/1/2017		
	TYLER - WESTLINK 69KV	6/1/2010	6/1/2010		
	WEST GARDNER (WGARD 11) 345-161-13 8KV TRANSFORMER CKT 11	7/1/2008	6/1/2008		

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222937	CHASE - WHITE JUNCTION 69KV CKT 1	7/1/2008	6/1/2009		
	CIRCLE - RENO COUNTY 115KV CKT 2	6/1/2009	6/1/2009		
	RENO - SUMMIT 345KV	7/1/2008	12/1/2008		No
	WICHITA - RENO 345KV	7/1/2008	12/1/2008		Yes

**A Transmission Operating Directive will need to be developed to document the minimum allowable generation per season in order maintain system reliability and evaluation of short term transmission service requests.

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

Customer	Study Number
KPP	AG1-2007-058

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
KPP	1222955	WR	WR	20	6/1/2007	6/1/2017	7/1/2008	7/1/2018	$ -	$ -	$ -	$ -
									$ -	$ -	$ -	$ -

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1222955	None					$ -	$ -	$ -
					Total	$ -	$ -	$ -

Reservation 1222644 and 1222955 were studied as one request

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

Customer	Study Number
KPP	AG1-2007-064

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
KPP	1223078	WPEK	WPEK	15	6/1/2007	6/1/2017	6/1/2010	6/1/2020	$ 539,722	$ -	$ 539,722	$ 1,001,864
									$ 539,722	$ -	$ 539,722	$ 1,001,864

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1223078	CONCORDIA - JEWELL 3 115KV CKT 1	6/1/2013	6/1/2013			$ 233,247	$ 6,447,839	$ 432,967
	JEWELL 3 - SMITH CENTER 115KV CKT 1	6/1/2013	6/1/2013			$ 306,475	$ 8,472,161	$ 568,897
					Total	$ 539,722	$ 14,920,000	$ 1,001,864

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1223078	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	CHAPMAN - CLAY CENTER JUNCTION 115KV CKT 1	7/1/2008	6/1/2010		
	Cimarron Plant Substation Expansion	6/1/2012	6/1/2012		
	CLAY CENTER - GREENLEAF 115KV CKT 1	7/1/2008	6/1/2010		
	GILL ENERGY CENTER EAST - INTERSTATE 138KV CKT 1	6/1/2016	6/1/2016		
	HARPER 138KV Capacitor	7/1/2008	6/1/2009		No
	HOLCOMB - PLYMELL 115KV CKT 1	12/1/2009	6/1/2010		Yes
	NORTH CIMARRON CAPACITOR	6/1/2012	6/1/2012		
	PIONEER TAP - PLYMELL 115KV CKT 1	12/1/2009	6/1/2010		Yes
	PRATT 138KV Capacitor	7/1/2008	6/1/2009		No
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	Summit - NE Saline 115 kV	7/1/2008	6/1/2010		
	TUCO INTERCHANGE 345/115KV TRANSFORMER CKT 1	6/1/2017	6/1/2017		

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1223078	RENO - SUMMIT 345KV	7/1/2008	12/1/2008		No
	WICHITA - RENO 345KV	7/1/2008	12/1/2008		Yes

*Reservation 1223078 and 1222904 were studied as one request

**A Transmission Operating Directive will need to be developed to document the minimum allowable generation per season in order maintain system reliability and evaluation of short term transmission service requests.

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

Customer	Study Number
SPRM	AG1-2007-042

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
SPRM	1220082	SPA	SPA	275	10/1/2010	10/1/2050			$ 1,464,000	$ -	$ 1,464,000	$ 5,512,744
									$ 1,464,000	$ -	$ 1,464,000	$ 5,512,744

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1220082	BROOKLINE - JUNCTION 161KV CKT 1	6/1/2017	6/1/2017			$ 1,464,000	$ 1,464,000	$ 5,512,744
					Total	$ 1,464,000	$ 1,464,000	$ 5,512,744

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1220082	JAMES RIVER - TWIN OAKS 69KV CKT 1	6/1/2015	6/1/2015		
	KICKAPOO - SUNSET 69KV CKT 1	6/1/2014	6/1/2014		
	NEERGARD - NORTON 69KV CKT 1	10/1/2010	10/1/2010		
	NIXA 161KV CAP BANK	6/1/2017	6/1/2017		
	SPRINGFIELD (SPF X3) 161/69/13.8KV TRANSFORMER CKT 1	10/1/2010	10/1/2010		

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1220082	BATTLEFIELD - SOUTHWEST DISPOSAL 161KV CKT 1	6/1/2013	6/1/2013		
	SOUTHWEST - SOUTHWEST DISPOSAL 161KV CKT 1	6/1/2013	6/1/2013		

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

Customer	Study Number
UCU	AG1-2007-023D

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
UCU	1214269	MPS	KCPL	2	6/1/2007	6/1/2012	6/1/2011	6/1/2016	$ -	$ 105,600	$ 20	$ 43
									$ -	$ 105,600	$ 20	$ 43

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1214269	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 20	$ 238,266	$ 43
					Total	$ 20	$ 238,266	$ 43

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1214269	BELTON SOUTH - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2010		Yes
	BLUE SPRINGS EAST - DUNCAN ROAD 161KV CKT 1	7/1/2008	6/1/2010		Yes
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	GRANDVIEW EAST - MARTIN CITY 161KV CKT 1 #2	7/1/2008	6/1/2010		Yes
	MARTIN CITY - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2011		Yes
	STRANGER CREEK - NW LEAVENWORTH 115KV	6/1/2010	6/1/2010		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	WEST GARDNER (WGARD 11) 345-161-13_8KV TRANSFORMER CKT 11	7/1/2008	7/1/2008		

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

Customer UCU
Study Number AG1-2007-025D

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
UCU	1214263	MPS	WR	1	6/1/2007	6/1/2012	6/1/2011	6/1/2016	$ -	$ 109,560	$ 2,212	$ 5,229
									$ -	$ 109,560	$ 2,212	$ 5,229

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1214263	COFFEYVILLE TAP - DEARING 138KV CKT 1 WERE #2	6/1/2008	6/1/2010			$ 153	$ 200,000	$ 343
	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1 Displacement	6/1/2010	6/1/2010			$ 736	$ 54,538	$ 1,653
	NEOSHO - NORTHEAST PARSONS 138KV CKT 1	6/1/2009	6/1/2009			$ 268	$ 250,000	$ 648
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 1,055	$ 238,266	$ 2,585
					Total	$ 2,212	$ 742,804	$ 5,229

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1214263	ANZIO - FORT JUNCTION SWITCHING STATION 115KV CKT 1	6/1/2009	6/1/2009		
	BELTON SOUTH - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2010		Yes
	BLUE SPRINGS EAST - DUNCAN ROAD 161KV CKT 1	7/1/2008	6/1/2010		Yes
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	BONANZA - NORTH HUNTINGTON 69KV	6/1/2013	6/1/2013		
	COWSKIN - WESTLINK 69KV	6/1/2010	6/1/2010		
	FORT JUNCTION SWITCHING STATION - MCDOWELL CREEK SWITCHING STATION 115KV CKT 1	6/1/2009	6/1/2009		
	GRANDVIEW EAST - MARTIN CITY 161KV CKT 1 #2	7/1/2008	6/1/2010		Yes
	HARPER 138KV Capacitor	7/1/2008	6/1/2009		No
	HOOVER SOUTH - TYLER 69KV	6/1/2010	6/1/2010		
	MARTIN CITY - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2011		Yes
	PRATT 138KV Capacitor	7/1/2008	6/1/2009		No
	STRANGER CREEK - NW LEAVENWORTH 115KV	6/1/2010	6/1/2010		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	Summit - NE Saline 115 kV	7/1/2008	6/1/2010		Yes
	TYLER - WESTLINK 69KV	6/1/2010	6/1/2010		

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1214263	CIRCLE - RENO COUNTY 115KV CKT 2	6/1/2009	6/1/2009		
	COFFEYVILLE TAP - DEARING 138KV CKT 1 AEPW	7/1/2008	6/1/2010		
	COFFEYVILLE TAP - DEARING 138KV CKT 1 WERE	7/1/2008	6/1/2010		
	RENO - SUMMIT 345KV	7/1/2008	12/1/2008		No
	WICHITA - RENO 345KV	7/1/2008	12/1/2008		Yes

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

Customer	Study Number
UCU	AG1-2007-060D

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
UCU	1223092	EES	MPS	75	3/1/2009	3/1/2029	6/1/2011	6/1/2031	$ -	$ 28,998,000	$ 3,875,785	$ 10,506,965
UCU	1223093	EES	MPS	75	3/1/2009	3/1/2029	6/1/2011	6/1/2031	$ -	$ 28,998,000	$ 3,875,785	$ 10,506,965
UCU	1223094	EES	MPS	75	3/1/2009	3/1/2029	6/1/2011	6/1/2031	$ -	$ 28,998,000	$ 3,875,785	$ 10,506,965
UCU	1223095	EES	MPS	75	3/1/2009	3/1/2029	6/1/2011	6/1/2031	$ -	$ 28,998,000	$ 3,875,785	$ 10,506,965
									$ -	$ 115,992,000	$ 15,503,139	$ 42,027,860

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1223092	5CALCR - NORFORK 161KV CKT 1 SWPA	6/1/2009	6/1/2010		Yes	$ 25,000	$ 100,000	$ -
	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1	6/1/2008	6/1/2011		Yes	$ 550,406	$ 7,200,000	$ 1,790,555
	CLARKSVILLE - DARDANELLE 161KV CKT 1	6/1/2012	6/1/2012			$ 750,000	$ 3,000,000	$ -
	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1	6/1/2009	6/1/2011		Yes	$ 1,001,433	$ 13,100,000	$ 3,217,956
	COOK - ST JOE 161KV CKT 1	6/1/2010	6/1/2010			$ 1,028,461	$ 4,400,000	$ 3,479,687
	CRAIG - PFLUMM 161KV CKT 1	6/1/2016	6/1/2016			$ 39,012	$ 200,000	$ 113,741
	MARTIN CITY - REDEL 161KV CKT 1	6/1/2009	6/1/2011		Yes	$ 431,938	$ 2,000,000	$ 1,751,035
	PLATTE CITY - SMITHVILLE 161KV CKT 1	12/1/2012	12/1/2012			$ 37,254	$ 180,000	$ 106,190
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 12,281	$ 238,266	$ 47,801
					Total	$ 3,875,785	$ 30,418,266	$ 10,506,965
1223093	5CALCR - NORFORK 161KV CKT 1 SWPA	6/1/2009	6/1/2010		Yes	$ 25,000	$ 100,000	$ -
	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1	6/1/2008	6/1/2011		Yes	$ 550,406	$ 7,200,000	$ 1,790,555
	CLARKSVILLE - DARDANELLE 161KV CKT 1	6/1/2012	6/1/2012			$ 750,000	$ 3,000,000	$ -
	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1	6/1/2009	6/1/2011		Yes	$ 1,001,433	$ 13,100,000	$ 3,217,956
	COOK - ST JOE 161KV CKT 1	6/1/2010	6/1/2010			$ 1,028,461	$ 4,400,000	$ 3,479,687
	CRAIG - PFLUMM 161KV CKT 1	6/1/2016	6/1/2016			$ 39,012	$ 200,000	$ 113,741
	MARTIN CITY - REDEL 161KV CKT 1	6/1/2009	6/1/2011		Yes	$ 431,938	$ 2,000,000	$ 1,751,035
	PLATTE CITY - SMITHVILLE 161KV CKT 1	12/1/2012	12/1/2012			$ 37,254	$ 180,000	$ 106,190
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 12,281	$ 238,266	$ 47,801
					Total	$ 3,875,785	$ 30,418,266	$ 10,506,965
1223094	5CALCR - NORFORK 161KV CKT 1 SWPA	6/1/2009	6/1/2010		Yes	$ 25,000	$ 100,000	$ -
	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1	6/1/2008	6/1/2011		Yes	$ 550,406	$ 7,200,000	$ 1,790,555
	CLARKSVILLE - DARDANELLE 161KV CKT 1	6/1/2012	6/1/2012			$ 750,000	$ 3,000,000	$ -
	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1	6/1/2009	6/1/2011		Yes	$ 1,001,433	$ 13,100,000	$ 3,217,956
	COOK - ST JOE 161KV CKT 1	6/1/2010	6/1/2010			$ 1,028,461	$ 4,400,000	$ 3,479,687
	CRAIG - PFLUMM 161KV CKT 1	6/1/2016	6/1/2016			$ 39,012	$ 200,000	$ 113,741
	MARTIN CITY - REDEL 161KV CKT 1	6/1/2009	6/1/2011		Yes	$ 431,938	$ 2,000,000	$ 1,751,035
	PLATTE CITY - SMITHVILLE 161KV CKT 1	12/1/2012	12/1/2012			$ 37,254	$ 180,000	$ 106,190
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 12,281	$ 238,266	$ 47,801
					Total	$ 3,875,785	$ 30,418,266	$ 10,506,965

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

1223095	5CALCR - NORFORK 161KV CKT 1 SWPA	6/1/2009	6/1/2010		Yes	$ 25,000	$ 100,000	$ -
	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1	6/1/2008	6/1/2011		Yes	$ 550,406	$ 7,200,000	$ 1,790,555
	CLARKSVILLE - DARDANELLE 161KV CKT 1	6/1/2012	6/1/2012			$ 750,000	$ 3,000,000	$ -
	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1	6/1/2009	6/1/2011		Yes	$ 1,001,433	$ 13,100,000	$ 3,217,956
	COOK - ST JOE 161KV CKT 1	6/1/2010	6/1/2010			$ 1,028,461	$ 4,400,000	$ 3,479,687
	CRAIG - PFLUMM 161KV CKT 1	6/1/2016	6/1/2016			$ 39,012	$ 200,000	$ 113,741
	MARTIN CITY - REDEL 161KV CKT 1	6/1/2009	6/1/2011		Yes	$ 431,938	$ 2,000,000	$ 1,751,035
	PLATTE CITY - SMITHVILLE 161KV CKT 1	12/1/2012	12/1/2012			$ 37,254	$ 180,000	$ 106,190
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 12,281	$ 238,266	$ 47,801
					Total	$ 3,875,785	$ 30,418,266	$ 10,506,965

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1223092	BLUE SPRINGS EAST - DUNCAN ROAD 161KV CKT 1	7/1/2008	6/1/2010		Yes
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	BONANZA - NORTH HUNTINGTON 69KV	6/1/2013	6/1/2013		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 AEPW	6/1/2009	6/1/2009		
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 OKGE	6/1/2009	6/1/2009		
	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 SWPA	6/1/2009	6/1/2010		Yes
	EAST 20MVAR CAPACITOR	6/1/2009	6/1/2010		No
	EDMOND SUB	6/1/2009	6/1/2010		Yes
	GRANDVIEW EAST - MARTIN CITY 161KV CKT 1 #2	7/1/2008	6/1/2010		Yes
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 AEPW	6/1/2009	6/1/2009		
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 OKGE	6/1/2009	6/1/2009		
	MARTIN CITY - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2011		
	RALPH GREEN 12MVAR CAPACITOR	6/1/2010	6/1/2010		
	REDEL - STILWELL 161KV CKT 1	7/1/2008	6/1/2011		Yes
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	WEST GARDNER (WGARD 11) 345-161-13_8KV TRANSFORMER CKT 11	7/1/2008	7/1/2008		
1223093	BLUE SPRINGS EAST - DUNCAN ROAD 161KV CKT 1	7/1/2008	6/1/2010		Yes
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	BONANZA - NORTH HUNTINGTON 69KV	6/1/2013	6/1/2013		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 AEPW	6/1/2009	6/1/2009		
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 OKGE	6/1/2009	6/1/2009		
	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 SWPA	6/1/2009	6/1/2010		Yes
	EAST 20MVAR CAPACITOR	6/1/2009	6/1/2010		No
	EDMOND SUB	6/1/2009	6/1/2010		Yes
	GRANDVIEW EAST - MARTIN CITY 161KV CKT 1 #2	7/1/2008	6/1/2010		Yes
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 AEPW	6/1/2009	6/1/2009		
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 OKGE	6/1/2009	6/1/2009		
	MARTIN CITY - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2011		
	RALPH GREEN 12MVAR CAPACITOR	6/1/2010	6/1/2010		
	REDEL - STILWELL 161KV CKT 1	7/1/2008	6/1/2011		Yes
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	WEST GARDNER (WGARD 11) 345-161-13_8KV TRANSFORMER CKT 11	7/1/2008	7/1/2008		
1223094	BLUE SPRINGS EAST - DUNCAN ROAD 161KV CKT 1	7/1/2008	6/1/2010		Yes
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	BONANZA - NORTH HUNTINGTON 69KV	6/1/2013	6/1/2013		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 AEPW	6/1/2009	6/1/2009		
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 OKGE	6/1/2009	6/1/2009		
	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 SWPA	6/1/2009	6/1/2010		Yes
	EAST 20MVAR CAPACITOR	6/1/2009	6/1/2010		No
	EDMOND SUB	6/1/2009	6/1/2010		Yes
	GRANDVIEW EAST - MARTIN CITY 161KV CKT 1 #2	7/1/2008	6/1/2010		Yes
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 AEPW	6/1/2009	6/1/2009		
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 OKGE	6/1/2009	6/1/2009		
	MARTIN CITY - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2011		
	RALPH GREEN 12MVAR CAPACITOR	6/1/2010	6/1/2010		
	REDEL - STILWELL 161KV CKT 1	7/1/2008	6/1/2011		Yes
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	WEST GARDNER (WGARD 11) 345-161-13_8KV TRANSFORMER CKT 11	7/1/2008	7/1/2008		

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

1223095	BLUE SPRINGS EAST - DUNCAN ROAD 161KV CKT 1	7/1/2008	6/1/2010		Yes
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	BONANZA - NORTH HUNTINGTON 69KV	6/1/2013	6/1/2013		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 AEPW	6/1/2009	6/1/2009		
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 OKGE	6/1/2009	6/1/2009		
	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 SWPA	6/1/2009	6/1/2010		Yes
	EAST 20MVAR CAPACITOR	6/1/2009	6/1/2010		No
	EDMOND SUB	6/1/2009	6/1/2010		Yes
	GRANDVIEW EAST - MARTIN CITY 161KV CKT 1 #2	7/1/2008	6/1/2010		Yes
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 AEPW	6/1/2009	6/1/2009		
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 OKGE	6/1/2009	6/1/2009		
	MARTIN CITY - TURNER ROAD SUBSTATION 161KV CKT 1	7/1/2008	6/1/2011		
	RALPH GREEN 12MVAR CAPACITOR	6/1/2010	6/1/2010		
	REDEL - STILWELL 161KV CKT 1	7/1/2008	6/1/2011		Yes
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	WEST GARDNER (WGARD 11) 345-161-13_8KV TRANSFORMER CKT 11	7/1/2008	7/1/2008		

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1223092	MUSKOGEE - PECAN CREEK 345KV CKT 1	6/1/2009	6/1/2009		
	Sooner to Rose Hill 345 kV OKGE	7/1/2008	12/1/2010		Yes
	Sooner to Rose Hill 345 kV WERE	7/1/2008	12/1/2010		Yes
1223093	MUSKOGEE - PECAN CREEK 345KV CKT 1	6/1/2009	6/1/2009		
	Sooner to Rose Hill 345 kV OKGE	7/1/2008	12/1/2010		Yes
	Sooner to Rose Hill 345 kV WERE	7/1/2008	12/1/2010		Yes
1223094	MUSKOGEE - PECAN CREEK 345KV CKT 1	6/1/2009	6/1/2009		
	Sooner to Rose Hill 345 kV OKGE	7/1/2008	12/1/2010		Yes
	Sooner to Rose Hill 345 kV WERE	7/1/2008	12/1/2010		Yes
1223095	MUSKOGEE - PECAN CREEK 345KV CKT 1	6/1/2009	6/1/2009		
	Sooner to Rose Hill 345 kV OKGE	7/1/2008	12/1/2010		Yes
	Sooner to Rose Hill 345 kV WERE	7/1/2008	12/1/2010		Yes

Third Party Limitations.

Reservation	Upgrade Name	COD	EOC	Earliest Service Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost
1223092	5ST_JOE 161.00 - EVERTON 161KV CKT 1	10/1/2008	10/1/2008			$ -	$ -
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 ENTR	6/1/2009	6/1/2009	6/1/2009		$ -	$ -
	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 ENTR	6/1/2009	6/1/2009			$ -	$ -
	EVERTON - HARRISON-EAST 161KV CKT 1	12/1/2008	12/1/2008			$ -	$ -
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 ENTR	6/1/2009	6/1/2009	6/1/2009		$ -	$ -
	RUSSELLVILLE EAST - RUSSELLVILLE SOUTH 161KV CKT 1	6/1/2009	6/1/2009			$ -	$ -
						$ -	$ -
1223093	5ST_JOE 161.00 - EVERTON 161KV CKT 1	10/1/2008	10/1/2008			$ -	$ -
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 ENTR	6/1/2009	6/1/2009	6/1/2009		$ -	$ -
	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 ENTR	6/1/2009	6/1/2009			$ -	$ -
	EVERTON - HARRISON-EAST 161KV CKT 1	12/1/2008	12/1/2008			$ -	$ -
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 ENTR	6/1/2009	6/1/2009	6/1/2009		$ -	$ -
	RUSSELLVILLE EAST - RUSSELLVILLE SOUTH 161KV CKT 1	6/1/2009	6/1/2009			$ -	$ -
						$ -	$ -

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

1223094	5ST_JOE 161.00 - EVERTON 161KV CKT 1	10/1/2008	10/1/2008			$ -	$ -
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 ENTR	6/1/2009	6/1/2009	6/1/2009		$ -	$ -
	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 ENTR	6/1/2009	6/1/2009			$ -	$ -
	EVERTON - HARRISON-EAST 161KV CKT 1	12/1/2008	12/1/2008			$ -	$ -
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 ENTR	6/1/2009	6/1/2009	6/1/2009		$ -	$ -
	RUSSELLVILLE EAST - RUSSELLVILLE SOUTH 161KV CKT 1	6/1/2009	6/1/2009			$ -	$ -
						$ -	$ -
1223095	5ST_JOE 161.00 - EVERTON 161KV CKT 1	10/1/2008	10/1/2008			$ -	$ -
	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 ENTR	6/1/2009	6/1/2009	6/1/2009		$ -	$ -
	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 ENTR	6/1/2009	6/1/2009			$ -	$ -
	EVERTON - HARRISON-EAST 161KV CKT 1	12/1/2008	12/1/2008			$ -	$ -
	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 ENTR	6/1/2009	6/1/2009	6/1/2009		$ -	$ -
	RUSSELLVILLE EAST - RUSSELLVILLE SOUTH 161KV CKT 1	6/1/2009	6/1/2009			$ -	$ -
					Total	$ -	$ -

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

Customer	Study Number
WRGS	AG1-2007-001D

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	1197077	EDE	WR	32	9/1/2007	9/1/2018	6/1/2013	6/1/2024	$ 42,019	$ -	$ 292,417	$ 137,554
									$ 42,019	$ -	$ 292,417	$ 137,554

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1197077	COFFEYVILLE TAP - DEARING 138KV CKT 1 WERE #2	6/1/2008	6/1/2010			$ 1,781	$ 200,000	$ 6,052
	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1 Displacement	6/1/2013	6/1/2013			$ 11,067	$ 467,569	$ 31,942
	East Manhattan - SW Manhattan 115kV Displacement	6/1/2011	6/1/2011			$ 3,388	$ 386,740	$ 11,105
	EAST MANHATTAN (EMANHT3X) 230/115/18.0KV TRANSFORMER CKT 2 Displacement	6/1/2011	6/1/2011			$ 10,812	$ 359,219	$ 35,440
	East Manhattan to Mcdowell 230 kV Displacement	6/1/2011	6/1/2011			$ 205	$ 115,877	$ 672
	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1 Displacement	6/1/2010	6/1/2010			$ 4,650	$ 54,538	$ 15,801
	HUDSON JUNCTION - PITTSBURG 69KV CKT 1	6/1/2017	6/1/2017			$ 250,000	$ 250,000	$ -
	LITCHFIELD - AQUARIUS - HUDSON JUNCTION 69KV CKT 1 Displacement	6/1/2014	6/1/2014			$ 1,846	$ 1,846	$ 4,499
	NEOSHO - NORTHEAST PARSONS 138KV CKT 1	6/1/2009	6/1/2009			$ 2,049	$ 250,000	$ 7,505
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 6,619	$ 238,266	$ 24,538
					Total	$ 292,417	$ 2,324,055	$ 137,554

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1197077	ANZIO - FORT JUNCTION SWITCHING STATION 115KV CKT 1	6/1/2009	6/1/2009		
	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2	6/1/2016	6/1/2016		
	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	Centerton - East Rogers - Osage Creek 345 kV	6/1/2017	6/1/2017		
	COWSKIN - WESTLINK 69KV	6/1/2010	6/1/2010		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	FORT JUNCTION SWITCHING STATION - MCDOWELL CREEK SWITCHING STATION 115KV CKT 1	6/1/2009	6/1/2009		
	Fort Scott - SW Bourbon 161 kV	6/1/2010	6/1/2010		
	GILL ENERGY CENTER EAST - INTERSTATE 138KV CKT 1	6/1/2016	6/1/2016		
	HARPER 138KV Capacitor	7/1/2008	6/1/2009		
	HOOVER SOUTH - TYLER 69KV	6/1/2010	6/1/2010		
	JOPLIN 59 - SUB 439 - STATELINE 161KV CKT 1	6/1/2012	6/1/2013		
	JOPLIN 59 - SUB 59 - JOPLIN 26TH ST. 161/69kV TRANSFORMER CKT 1	6/1/2012	6/1/2013		
	PRATT 138KV Capacitor	7/1/2008	6/1/2009		
	STRANGER CREEK - NW LEAVENWORTH 115KV	6/1/2010	6/1/2010		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	SUB 124 - AURORA H.T. - SUB 383 - MONETT 161KV CKT 1	6/1/2017	6/1/2017		
	SUB 124 - AURORA H.T. 161KV	6/1/2013	6/1/2013		
	SUB 249 - BOSTON EAST - SUB 403 - JASPER WEST TAP 69KV CKT 1 #1	7/1/2008	6/1/2010		
	SUB 249 - BOSTON EAST - SUB 403 - JASPER WEST TAP 69KV CKT 1 #2	6/1/2009	6/1/2010		
	SUB 383 - MONETT - SUB 376 - MONETT CITY SOUTH 161/69/12.5KV TRANSFORMER CKT 1	6/1/2013	6/1/2013		
	SUB 389 - JOPLIN SOUTHWEST - SUB 422 - JOPLIN 24TH & CONNECTICUT 161KV CKT 1	7/1/2008	6/1/2009		
	SUB 438 - RIVERSIDE 161KV	6/1/2011	6/1/2011		
	Summit - NE Saline 115 kV	7/1/2008	6/1/2010		
	TYLER - WESTLINK 69KV	6/1/2010	6/1/2010		
	WEST GARDNER (WGARD 11) 345-161-13_8KV TRANSFORMER CKT 11	7/1/2008	7/1/2008		

Credits may be required for the following network upgrades directly assigned to transmission customers in previous aggregate study.

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1197077	SUB 110 - ORONOGO JCT. - SUB 167 - RIVERTON 161KV CKT 1	6/1/2011	6/1/2011		

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1197077	CIRCLE - RENO COUNTY 115KV CKT 2	6/1/2009	6/1/2009		
	COFFEYVILLE TAP - DEARING 138KV CKT 1 AEPW	7/1/2008	6/1/2010		
	COFFEYVILLE TAP - DEARING 138KV CKT 1 WERE	7/1/2008	6/1/2010		
	RENO - SUMMIT 345KV	7/1/2008	12/1/2008		
	WICHITA - RENO 345KV	7/1/2008	12/1/2008		

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

Customer	Study Number
WRGS	AG1-2007-047D

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	1222005	WR	EES	106	10/1/2007	10/1/2010	6/1/2011	6/1/2014	$ -	$ 3,434,400	$ 208,555	$ 495,199
									$ -	$ 3,434,400	$ 208,555	$ 495,199

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1222005	MARTIN CITY - REDEL 161KV CKT 1	6/1/2009	6/1/2011			$ 104,812	$ 2,000,000	$ 247,996
	OXFORD 138KV Capacitor Displacement	6/1/2008	6/1/2010			$ 37,557	$ 116,323	$ 84,575
	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	6/1/2009	6/1/2009			$ 66,187	$ 238,266	$ 162,628
					Total	$ 208,555	$ 2,354,589	$ 495,199

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222005	BLUE SPRINGS EAST CAP BANK	6/1/2010	6/1/2010		
	Craig 161kV 50MVar Cap Bank	6/1/2010	6/1/2010		
	GILL ENERGY CENTER EAST - GILLJCT2 69.000 69KV CKT 1	7/1/2008	6/1/2009		
	GRANDVIEW EAST - MARTIN CITY 161KV CKT 1 #2	7/1/2008	6/1/2010		
	HARPER 138KV Capacitor	7/1/2008	6/1/2009		
	PRATT 138KV Capacitor	7/1/2008	6/1/2009		
	REDEL - STILWELL 161KV CKT 1	7/1/2008	6/1/2011		
	STRANGER CREEK - NW LEAVENWORTH 115KV	6/1/2010	6/1/2010		
	STRANGER CREEK TRANSFORMER CKT 2	6/1/2009	6/1/2009		
	Summit - NE Saline 115 kV	7/1/2008	6/1/2010		

Credits may be required for the following network upgrades directly assigned to transmission customers in previous aggregate study.

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222005	HUGO POWER PLANT - VALLIANT 345 KV AEPW	6/1/2011	6/1/2011		
	HUGO POWER PLANT - VALLIANT 345 KV WFEC	6/1/2011	6/1/2011		

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

Reservation	Upgrade Name	COD	EOC	Earliest Service Date	Redispatch Available
1222005	CHASE - WHITE JUNCTION 69KV CKT 1	7/1/2008	6/1/2009		
	CIRCLE - RENO COUNTY 115KV CKT 2	6/1/2009	6/1/2009		
	RENO - SUMMIT 345KV	7/1/2008	12/1/2008		
	WICHITA - RENO 345KV	7/1/2008	12/1/2008		

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

Transmission Owner	Upgrade	Solution	Earliest Data Upgrade Required (COD)	Estimated Date of Upgrade Completion (EOC)	Estimated Engineering & Construction Cost
AEPW	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1	Rebuild 8.37 miles of 795 ACSR with 1590 ACSR & reset relays @ BSE	06/01/08	06/01/11	$ 7,200,000
AEPW	COFFEYVILLE TAP - NORTH BARTLESVILLE 138KV CKT 1	Rebuild 13.11 miles of 795 ACSR with 1590 ACSR.	06/01/09	06/01/11	$ 13,100,000
EMDE	SUB 271 - BAXTER SPRINGS WEST - SUB 404 - HOCKERVILLE 69KV CKT 1 Displacement	Change CT Settings for Rate B 61 MVA	12/01/08	04/01/09	$ 20,564
KACP	CRAIG - PFLUMM 161KV CKT 1	Replace with higher rated breaker at Pflumm	06/01/16	06/01/16	$ 200,000
KACP	MARTIN CITY - REDEL 161KV CKT 1	Reconductor 1192 acss upgrade terminal equip 2000 amp	06/01/09	06/01/11	$ 2,000,000
MIPU	COOK - ST JOE 161KV CKT 1	Conductor, Switch, Relay	06/01/10	06/01/10	$ 4,400,000
MIPU	PLATTE CITY - SMITHVILLE 161KV CKT 1	Replace wavetrap	12/01/12	12/01/12	$ 180,000
SPRM	BROOKLINE - JUNCTION 161KV CKT 1	Reconductor 1192 AAC with 1158.4 ACSS/TW 3.4 MILES, replace line switches in both terminals, and replace metering CTs in Brookline.	06/01/17	06/01/17	$ 1,464,000
SWPA	5CALCR - NORFORK 161KV CKT 1 SWPA	Replace buswork within bay and change metering CT ratio, replace wavetraps. Entergy must also reconductor their line to increase the rating.	06/01/09	06/01/10	$ 100,000
SWPA	CLARKSVILLE - DARDANELLE 161KV CKT 1	Reconductor Clarksville-Dardanelle line	06/01/12	06/01/12	$ 3,000,000
WEPL	CONCORDIA - JEWELL 3 115KV CKT 1	Rebuild line	06/01/13	06/01/13	$ 6,447,839
WEPL	JEWELL 3 - SMITH CENTER 115KV CKT 1	Rebuild line	06/01/13	06/01/13	$ 8,472,161
WERE	ALLEN - LEHIGH TAP 69KV CKT 1	Tear down / Rebuild 5.69-mile line; 954 kcmil ACSR	06/01/08	06/01/11	$ 2,363,907
WERE	ALLEN 69KV Capacitor	Allen 69 kV 15 MVAR Capacitor Addition	06/01/08	06/01/10	$ 500,000
WERE	ALTOONA EAST 69KV Capacitor	ALTOONA EAST 69KV 6 MVAR Capacitor Addition	06/01/08	06/01/10	$ 200,000
WERE	ARKANSAS CITY - PARIS 69KV CKT 1 #1 Displacement	Replace Disconnect Switches and Bus Jumpers at Paris and Ark City 69 kV substations	06/01/08	06/01/09	$ 9,889
WERE	ASH GROVE JCT2 - TIOGA 69KV CKT 1	Rebuild 2.13 miles	06/01/11	06/01/11	$ 767,000
WERE	ATHENS 69KV Capacitor	Athens 69 kV 15 MVAR Capacitor Addition	06/01/08	06/01/10	$ 500,000
WERE	Athens to Owl Creek 69 kV	Rebuild Athens to Owl Creek (138kV/69kV Operation)	06/01/08	06/01/11	$ 1,208,769
WERE	BURLINGTON JUNCTION - COFFEY COUNTY NO. 3 WESTPHALIA 69KV CKT 1	Rebuild 7.2 miles (138kV/69kV Operation)	06/01/08	06/01/11	$ 2,600,000
WERE	BURLINGTON JUNCTION - WOLF CREEK 69KV CKT 1	Rebuild 4.1 miles (138kV/69kV Operation)	06/01/08	06/01/11	$ 1,480,000
WERE	CHANUTE TAP - TIOGA 69KV CKT 1	Replace Jumpers	06/01/11	06/01/11	$ 100,000
WERE	CITY OF IOLA - UNITED NO. 9 CONGER 69KV CKT 1	Tear down / Rebuild 4-mile 69 kV line; 954 kcmiol ACSR	06/01/08	06/01/11	$ 1,440,000
WERE	CITY OF WINFIELD - RAINBOW 69KV CKT 1	Rebuild 3.99-mile Rainbow-Winfield 69 kV line, 954 ACSR	06/01/08	06/01/11	$ 1,645,279
WERE	COFFEY COUNTY NO. 3 WESTPHALIA - GREEN 69KV CKT 1	Rebuild 9.22 miles (138kV/69kV Operation)	06/01/08	06/01/11	$ 3,280,000
WERE	COFFEYVILLE TAP - DEARING 138KV CKT 1 WERE #2	Replace Disconnect Switches, Wavetrap, Breaker, Jumpers	06/01/08	06/01/10	$ 200,000
WERE	CRESWELL - OAK 69KV CKT 1 #1 Displacement	Replace jumpers and bus, and reset CTs and relaying. Rebuild substations.	06/01/08	06/01/09	$ 39,545
WERE	DEARING 138KV Capacitor Displacement	Dearing 138 kV 20 MVAR Capacitor Addition	06/01/08	06/01/10	$ 85,362
WERE	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1 Displacement	Rebuild 27 miles 345kV construction operated as 230kV	06/01/13	06/01/13	$ 467,569
WERE	East Manhattan - SW Manhattan 115kV Displacement	Build new 115kV line from East Manhattan to new SW Manhattan substation	06/01/11	06/01/11	$ 386,740
WERE	EAST MANHATTAN (EMANHT3X) 230/115/18.0KV TRANSFORMER CKT 2 Displacement	Add second parallel 230-115kV transformer at E Manhattan	06/01/11	06/01/11	$ 359,219
WERE	East Manhattan to Mcdowell 230 kV Displacement	The East Manhattan-McDowell 115 kV is built as a 230 kV line, but is operated at 115 kV. Substation work will have to be performed in order to convert this line.	06/01/11	06/01/11	$ 115,877
WERE	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1 Displacement	Replace Disconnect Switches, Wavetrap, Breaker, Jumpers	06/01/10	06/01/10	$ 54,538
WERE	Green to Vernon 69 kV	Rebuild 7.19 miles Green to Vernon 69 kV (138kV/69kV Operation)	06/01/08	06/01/11	$ 2,966,229
WERE	HUDSON JUNCTION - PITTSBURG 69KV CKT 1	Replace jumpers and bus, and reset CTs and relaying. Rebuild substations.	06/01/17	06/01/17	$ 250,000
WERE	LEHIGH TAP - OWL CREEK 69KV CKT 1	Tear down / Rebuild 8.47-mile 69 kV line; 954 kcmil ACSR	06/01/08	06/01/11	$ 3,494,292
WERE	LEHIGH TAP - UNITED NO. 9 CONGER 69KV CKT 1	Tear down / Rebuild 0.91-mile 69 kV line; 954 kcmiol ACSR	06/01/08	06/01/11	$ 236,391
WERE	LITCHFIELD - AQUARIUS - HUDSON JUNCTION 69KV CKT 1 Displacement	Replace 69 kV disconnect switches at Aquarius.	06/01/14	06/01/14	$ 1,846
WERE	NEOSHO - NORTHEAST PARSONS 138KV CKT 1	Replace bus and Jumpers at NE Parsons 138 kV substation	06/01/09	06/01/09	$ 250,000
WERE	OAK - RAINBOW 69KV CKT 1	Tear down / Rebuild 5.10-mile Oak-Rainbow 69 kV using 954 kcmil ACSR	06/01/08	06/01/11	$ 3,949,405
WERE	OXFORD 138KV Capacitor Displacement	Install 30 MVAR Capacitor Bank at Oxford 138 kV	06/01/08	06/01/10	$ 116,323
WERE	RICHLAND - ROSE HILL JUNCTION 69KV CKT 1 Displacement	Rebuild 5.43 mile Rose Hill Junction-Richland as a 138 kV line but operate at 69 kV.	06/01/08	06/01/11	$ 444,111
WERE	TECUMSEH ENERGY CENTER - MIDLAND 115KV CKT 1 Displacement	Convert 161 kV Line to 115 kV Operation	06/01/09	06/01/09	$ 238,266
WERE	TIOGA 69KV Capacitor	Tioga 69 kV 15 MVAR Capacitor Addition	06/01/08	06/01/10	$ 500,000
WERE	Vernon to Athens 69 kV	Rebuild 5.17 miles Green to Vernon 69 kV (138kV/69kV Operation)	06/01/08	06/01/11	$ 2,132,879

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 Data Upgrade Required (COD)	Estimated Date of Upgrade Completion (EOC)
AEPW	COFFEYVILLE TAP - DEARING 138KV CKT 1 AEPW	Tie Line, Reconductor 1.09 miles of 795 ACSR with 1590 ACSR.	7/1/2008	6/1/2010
OKGE	MUSKOGEE - PECAN CREEK 345KV CKT 1	Increase CT ration at Pecan Creek from 800-5 to 2000-5 to allow a 1500 amp rating of line section.	6/1/2009	6/1/2009
OKGE	Sooner to Rose Hill 345 kV OKGE	New 345 kV line from Sooner to Oklahoma/Kansas	7/1/2008	12/1/2010
SPRM	BATTLEFIELD - SOUTHWEST DISPOSAL 161KV CKT 1	Reconductor 161kV Line 1192 MCM AAC to 954 kcmil ACSS/TW 2.71 miles and Upgrade Teminal Equipment	6/1/2013	6/1/2009
SPRM	SOUTHWEST - SOUTHWEST DISPOSAL 161KV CKT 1	Reconductor 161kV Line 1192 MCM AAC to 954 kcmil ACSS/TW 0.67 miles and Upgrade Teminal Equipment	6/1/2013	6/1/2009
WEPL	PHILLIPSBURG - RHOADES 115 kV	Install 35 miles 115 kV from Phillipsburgsubstion to Rhoades	7/1/2008	6/1/2009
WERE	CHASE - WHITE JUNCTION 69KV CKT 1	Tear down / Rebuild 7.3-mile Chase - White Junction 69 kV line. Replace existing 2/0 copper conductor with 795 kcmil ACSR conductor.	7/1/2008	6/1/2009
WERE	CIRCLE - RENO COUNTY 115KV CKT 2	Rebuild 6.25-miles	6/1/2009	6/1/2009
WERE	COFFEYVILLE TAP - DEARING 138KV CKT 1 WERE	Tie Line, Rebuild 3.93 miles of 795 ACSR with 1590 ACSR.	7/1/2008	6/1/2010
WERE	RENO - SUMMIT 345KV	Install new 50.55-mile 345 kV line from Reno county to Summit; 31 miles of 115 kV line between Circle and S Philips would be rebuilt as double circuit with the 345 kV line to minimize ROW impacts; Substation work required at Summit for new 345 kV terminal	7/1/2008	12/1/2008
WERE	Sooner to Rose Hill 345 kV WERE	New 345 kV line from Oklahoma/Kansas Stateline to Rose Hill	7/1/2008	12/1/2010
WERE	WICHITA - RENO 345KV	Build 345kV from Wichita to Reno Co	7/1/2008	12/1/2008

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

Expansion Plan 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 Data Upgrade Required (COD)	Estimated Date of Upgrade Completion (EOC)
AEPW	BONANZA - NORTH HUNTINGTON 69KV	Convert from 69KV to 161KV	6/1/2013	6/1/2013
AEPW	Centerton - East Rogers - Osage Creek 345 kV	Install 41 miles of 345 kV line from Centerton to East Rogers to Osage Creek and Install new 345/161 kV transformer at Osage Creek	6/1/2017	6/1/2017
AEPW	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 AEPW	Rebuild 17.96 miles of 250 Copperweld with 1272 ACSR.	6/1/2009	6/1/2009
AEPW	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 AEPW	Rebuild 7.43 miles of 250 CWC with 795 ACSR	6/1/2009	6/1/2009
EMDE	JAMESVILLE - SUB 415 - BLACKHAWK JCT. 69KV CKT 1 EMDE	Replace Jumpers to breaker #6950 at Blackhawk Jct.	6/1/2014	6/1/2014
EMDE	JOPLIN 59 - SUB 439 - STATELINE 161KV CKT 1	Install new line from Sub #439 to new Sub Joplin 59.	6/1/2012	6/1/2013
EMDE	JOPLIN 59 - SUB 59 - JOPLIN 26TH ST. 161/69kV TRANSFORMER CKT 1	Install 3-wind transformer from 161 kV Joplin 59 bus to Sub #59 Joplin 26th St.	6/1/2012	6/1/2013
EMDE	SUB 124 - AURORA H.T. - SUB 152 - MONETT H.T. 69KV CKT 1	Change CT Ratio on breaker #6936 at Aurora #124	6/1/2009	6/1/2009
EMDE	SUB 124 - AURORA H.T. - SUB 383 - MONETT 161KV CKT 1	Change CT Ratio at Sub #383 on Breaker #16186 for 268 MVA Rate B	6/1/2017	6/1/2017
EMDE	SUB 124 - AURORA H.T. 161KV	Install 3 - stages of 22 MVAR each for total of 66 MVAR capacitor bank at Aurora Sub #124 bus# 547537	6/1/2013	6/1/2013
EMDE	SUB 145 - JOPLIN WEST 7TH - SUB 64 - JOPLIN 10TH ST. 69KV CKT 1	Replace Disconnect Switches and Leads on Breaker #6965 at Sub #64 and #6932 at Sub #145	6/1/2010	6/1/2010
EMDE	SUB 152 - MONETT H.T. - SUB 383 - MONETT 69KV CKT 1	Replace 4/0 Cu jumpers with 500 MCM Cu, new Rate: 54 / 65	6/1/2009	6/1/2009
EMDE	SUB 170 - NICHOLS ST. - SUB 80 - MARSHFIELD JCT. 69KV CKT 1	Reconductor line from Sub #80 to Sub #170 from 1/0 CU to 556 ACSR and replace Jumpers in Sub #80	6/1/2009	6/1/2011
EMDE	SUB 249 - BOSTON EAST - SUB 403 - JASPER WEST TAP 69KV CKT 1 #1	Change out Bus Conductor @ Sub# 403 from 1/0 ACSR to 336 ACSR for 33 MVA Rate A / 39 MVA Rate B	7/1/2008	6/1/2010
EMDE	SUB 249 - BOSTON EAST - SUB 403 - JASPER WEST TAP 69KV CKT 1 #2	Reconductor 8.700 Mile of 1/0 Cu with 336 ACSR for 57 MVA Rate B	6/1/2009	6/1/2010
EMDE	SUB 383 - MONETT - SUB 376 - MONETT CITY SOUTH 161/69/12.5KV TRANSFORMER CKT 1	Install new line from Sub #383 to new Sub MONETT 5. Install 3-wind transformer from 161 kV new bus to Monett city south 69kV	6/1/2013	6/1/2013
EMDE	SUB 389 - JOPLIN SOUTHWEST - SUB 422 - JOPLIN 24TH & CONNECTICUT 161KV CKT 1	Change CT Ratio at Sub #389 on Breaker #16170 for 268 MVA Rate B	7/1/2008	6/1/2009
EMDE	SUB 438 - RIVERSIDE 161KV	Install 3 - stages of 22 MVAR each for a total of 66 MVAR capacitor bank at Riverside Sub #438 547497	6/1/2011	6/1/2011
EMDE	SUB 73 - BOLIVAR BURNS 69KV	Add 14 MVAR cap bank at Bolivar Sub# 73 bus# 547528	6/1/2013	6/1/2013
GRDA	KERR - PENSACOLA 115KV CKT 1	Rebuild 22 miles of line from 4/0 Cu to 795 ACSR for 161kV	12/1/2012	12/1/2012
INDN	SHRANK ROAD - SUB I 69KV CKT 1	Reconductor line with 556 ACSR	6/1/2012	6/1/2012
INDN	SUBSTATION M 161/69KV TRANSFORMER CKT 2	Add second 100 MVA xfr at Subsation M	6/1/2010	6/1/2011
KACP	Craig 161kV 50MVar Cap Bank	New Craig 542978 50 MVAR cap bank.	6/1/2010	6/1/2010
KACP	MERRIAM - ROELAND PARK 161KV CKT 1	reconductor with 1192 acsr; upgrade term equip 1200 A	6/1/2017	6/1/2017
KACP	REDEL - STILWELL 161KV CKT 1	Reconductor line with 1192 ACSS and upgrade terminal equipment for 2000 amps	7/1/2008	6/1/2011
KACP	WEST GARDNER (WGARD 11) 345-161-13_8KV TRANSFORMER CKT 11	Replace 400/440 Mva Tx with 600/660 Mva Tx	7/1/2008	6/1/2008
MIDW	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 MIDW	Tear down and rebuild 73.4% Ownership 28.79 mile HEC-Huntsville 115 kV line and replace CT, wavetrap and relays.	6/1/2016	6/1/2016
MIDW	HUNTSVILLE - ST_JOHN 115KV CKT 1	Rebuild 26.5 miles Huntsville - St. John 115 kV line and replace CT, wavetrap, breakers, and relays.	6/1/2016	6/1/2016
MIPU	BELTON SOUTH - TURNER ROAD SUBSTATION 161KV CKT 1	Reconductor to Bundled Drake	7/1/2008	6/1/2010
MIPU	BLUE SPRINGS EAST - DUNCAN ROAD 161KV CKT 1	Upgrade to conductor Bundled Drake	7/1/2008	6/1/2010
MIPU	BLUE SPRINGS EAST CAP BANK	Add 50 MVAR cap bank at Blue Springs East	6/1/2010	6/1/2010
MIPU	EAST 20MVAR CAPACITOR	Add 20MVAR capacitor at East 161kV	6/1/2009	6/1/2010
MIPU	EDMOND SUB	Add a new 161/34.5 kV Sub at Edmond tapping the Cook to Lake Road 161 kV line	6/1/2009	6/1/2010
MIPU	GRANDVIEW EAST - MARTIN CITY 161KV CKT 1 #2	Reconductor to Bundled Drake	7/1/2008	6/1/2010
MIPU	MARTIN CITY - TURNER ROAD SUBSTATION 161KV CKT 1	Upgrade to bundled 795 26/7 ACSR conductor	7/1/2008	6/1/2011
MIPU	RALPH GREEN 12MVAR CAPACITOR	12MVAR at Ralph Green	6/1/2010	6/1/2010
OKGE	CANADIAN - CEDAR LANE 138KV CKT 1	Replace a trap at Cedar Lane to 1200A.	1/1/2011	6/1/2010
OKGE	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 OKGE	Rebuild 17.96 miles of 250 Copperweld with 1272 ACSR.	6/1/2009	6/1/2009
OKGE	FRANKLIN SW - MIDWEST TAP 138KV CKT 1 OKGE	Reconductor 1.27 miles of line to 1590AS52. WFEC will have to provide upgrade solution also for their Franklin (WFEC).	1/1/2011	6/1/2011
OKGE	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 OKGE	Rebuild 7.43 miles of 250 CWC with 795 ACSR	6/1/2009	6/1/2009
SPRM	JAMES RIVER - TWIN OAKS 69KV CKT 1	Reconductor 69kV Line 636 MCM ACSR to 762.8 kcmil ACSS/TW 3.103 miles	6/1/2015	6/1/2015
SPRM	KICKAPOO - SUNSET 69KV CKT 1	Reconductor 69kV Line 636 MCM ACSR to 762.8 kcmil ACSS/TW 1.35 miles.	6/1/2014	6/1/2014
SPRM	NEERGARD - NORTON 69KV CKT 1	Transfer load & Reconductor 636 ACSR with 477 ACSS/TW	10/1/2010	6/1/2010
SPS	TUCO INTERCHANGE 345/115KV TRANSFORMER CKT 1	Install 345/115 kV Transformer at Tuco	6/1/2017	6/1/2017
SUNC	HOLCOMB - PLYMELL 115KV CKT 1	Rebuild Holcomb to Plymell	12/1/2009	6/1/2010
SUNC	NORTH CIMARRON CAPACITOR	Install 24 MVAR Capacitor bank at North Cimarron	6/1/2012	6/1/2012
SUNC	PIONEER TAP - PLYMELL 115KV CKT 1	Rebuild Plymell to Pioneer Tap	12/1/2009	6/1/2010
SWPA	BULL SHOALS - BULL SHOALS 161KV CKT 1	Replace buswork in Bull Shoals switchyard.	6/1/2009	6/1/2010
SWPA	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 SWPA	Replace wave trap, disconnect switches, current transformers, and breaker. Bus will limit rating to 1340 amps.	6/1/2009	6/1/2010
SWPA	NIXA 161KV CAP BANK	25Mvar Cap at Nixa	6/1/2017	6/1/2017
SWPA	SPRINGFIELD (SPF X3) 161/69/13.8KV TRANSFORMER CKT 1	Add Third Transformer	10/1/2010	10/1/2010
WEPL	Cimarron Plant Substation Expansion	Integrate SUNC North Cimarron Top into reconfigured WEPL Cimarron Plant Sub	6/1/2012	6/1/2012
WEPL	CLAY CENTER - GREENLEAF 115KV CKT 1	Building a new 115 kV tie with Westar from Greenleaf to Clay Center	7/1/2008	6/1/2010
WEPL	HARPER 138KV Capacitor	Install 1 - 20 MVar capacitor bank	7/1/2008	6/1/2009
WEPL	PRATT - ST JOHN 115KV CKT 1	Replace terminal equipment	6/1/2017	6/1/2017
WEPL	PRATT 138KV Capacitor	Install 1 - 20 MVar capacitor bank	7/1/2008	6/1/2009
WERE	95TH & WAVERLY - CAPTAIN JUNCTION 115KV CKT 1	Rebuild 7.61 miles from 95th & Waverly-Captain Junction 115 kV line.	6/1/2017	6/1/2017
WERE	ANZIO - FORT JUNCTION SWITCHING STATION 115KV CKT 1	Tear down / Rebuild 4.85-mile line, 1192.5 kcmil ACSR	6/1/2009	6/1/2009
WERE	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2	Add second Auburn 230-115 kV transformer.	6/1/2016	6/1/2016
WERE	BISMARK JUNCTION SWITCHING STATION - FARMERS CONSUMER CO-OP 115KV CKT 1	Rebuild 2.9 mi 115 kV line Bismark to COOP	6/1/2015	6/1/2015
WERE	BISMARK JUNCTION SWITCHING STATION - MIDLAND JUNCTION 115KV CKT 1	Rebuild 5.2 miles Bismark to Midland 115 kV line	6/1/2015	6/1/2015
WERE	CHAPMAN - CLAY CENTER JUNCTION 115KV CKT 1	Reset terminal equipment	7/1/2008	6/1/2010
WERE	COWSKIN - WESTLINK 69KV	Rebuild 2.11 miles	6/1/2010	6/1/2010
WERE	FARMERS CONSUMER CO-OP - WAKARUSA JUNCTION SWITCHING STATION 115KV CKT 1	Rebuild 1.53-mile Co-op-Wakarusa 115 kV line.	6/1/2017	6/1/2017
WERE	FORT JUNCTION SWITCHING STATION - MCDOWELL CREEK SWITCHING STATION 115KV CKT 1	Rebuild 11-mile McDowell-Ft Junction 115 kV 1&2 with one 2x1192.5 kcmil ACSR circuit	6/1/2009	6/1/2009
WERE	Fort Scott - SW Bourbon 161 kV	Tap Litchfield-Marmaton 161 kV with new SW Bourbon Sub to Ft Scott, and new 161/69 kV transformer at Ft Scott.	6/1/2010	6/1/2010
WERE	GILL ENERGY CENTER EAST - GILLJCT2 69.000 69KV CKT 1	Tear down / Rebuild 3.69-mile Gill-Gill Junction-Oatville 69 kV line using 1192.5 kcmil ACSR	7/1/2008	6/1/2009
WERE	GILL ENERGY CENTER EAST - INTERSTATE 138KV CKT 1	Replace wave trap	6/1/2016	6/1/2016
WERE	HOOVER SOUTH - TYLER 69KV	Rebuild 1.94 miles	6/1/2010	6/1/2010
WERE	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 WERE	Tear down and rebuild 26.6% Ownership 28.79 mile HEC-Huntsville 115 kV line and replace CT, wavetrap and relays.	6/1/2016	6/1/2016
WERE	LAWRENCE HILL - MOCKINGBIRD HILL SWITCHING STATION 115KV CKT 1	Rebuild Line	6/1/2017	6/1/2017
WERE	ROSE HILL JUNCTION - WEAVER 69KV CKT 1	Rebuild 5.73 mile Weaver-Rose Hill Junction as a 138 kV line but operate at 69 kV.	7/1/2008	6/1/2009
WERE	SOUTHWEST LAWRENCE - WAKARUSA JUNCTION SWITCHING STATION 115KV CKT 1	Rebuild 4.09 mile SW Lawrence-Wakarusa 115 kV line	6/1/2016	6/1/2016
WERE	STRANGER CREEK - NW LEAVENWORTH 115KV	Rebuild 11.62-mile Jarbalo-NW Leavenworth 115 kV line and tap in & out of Stranger 115 kV	6/1/2010	6/1/2010
WERE	STRANGER CREEK TRANSFORMER CKT 2	Install second Stranger Creek 345-115 transformer	6/1/2009	6/1/2009
WERE	Summit - NE Saline 115 kV	Tear down / Rebuild 7.23-mile Summit-Northview 115 kV, 1192.5 kcmil ACSR Build 6.5-mile Summit-Southgate 115 kV, 1192.5 kcmil ACSR Tear down Northview-South Gate 115 kV	7/1/2008	6/1/2010

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

Expansion Plan 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 Data Upgrade Required (COD)	Estimated Date of Upgrade Completion (EOC)
WERE	TYLER - WESTLINK 69KV	Rebuild 2.66 miles and operate line normally closed	6/1/2010	6/1/2010
WFEC	ACME - WEST NORMAN 69KV CKT 1	Reconductor 4 miles from 4/0 to 795 ACSR	1/1/2011	6/1/2010
WFEC	FRANKLIN SW - MIDWEST TAP 138KV CKT 1 WFEC	Replace switches and wavetrap at Franklin Switch to 2000A	1/1/2011	6/1/2011
WFEC	HAMMETT - MEEKER 138KV CKT 1	Install 10 miles of 138 kV from MEEKER sub to Hammett Sub and install termal equipment	1/1/2011	6/1/2010
WFEC	LattaJct Cap Bank	new Switch/cap bank at LattaJct = 12 MVAR	6/1/2017	6/1/2013
WFEC	MARIETTA 138KV CAP BANK	Install new 25 Mvar bank at Marietta SW.	1/1/2011	6/1/2010
WFEC	Norman Area Voltage Conversion	Convert Canadian - OU - Cole - Criner to 138 KV and Canadian-Goldsby-OU-W Norman-Acme-Franklin	1/1/2011	6/1/2010
WFEC	PAOLI 138/69KV TRANSFORMER CKT 1	Upgrade to 70 MVA	12/1/2012	12/1/2012
WFEC	WOODWARD - WOODWARD 69KV CKT 1	replace the 336.4 conductor with 795, 1.5 double circuit 795/336.4 H-frame @ $310,000/mi (the other circuit is the Woodward – Taloga line) 1.9 single circuit 795 H-frame @ $250,000/mi	12/1/2012	12/1/2012

Previously Assigned Aggregate Study Upgrades requiring credits to Previous Aggregate Study Customers.

Transmission Owner	Upgrade	Solution	Earliest Data Upgrade Required (COD)	Estimated Date of Upgrade Completion (EOC)
AEPW	HUGO POWER PLANT - VALLIANT 345 KV AEPW	Vallient 345 KV line terminal	6/1/2011	6/1/2011
EMDE	SUB 110 - ORONOGO JCT. - SUB 167 - RIVERTON 161KV CKT 1	Reconductor Oronogo 59467 to Riverton 59469 with Bundled 556 ACSR	6/1/2011	6/1/2011
OKGE	FPL SWITCH - MOORELAND 138KV CKT 1 OKGE	OGE would rebuild .18 miles of 267AS33 with 795AS33. This would raise OGEs summer and winter Rate B to 287MVA. The limit will still be at WFECs Mooreland at 390A & 600A.	6/1/2006	4/1/2008
WFEC	FPL SWITCH - MOORELAND 138KV CKT 1 WFEC	Upgrade terminal equipment FPL Sw & Mooreland	6/1/2006	4/1/2008
WFEC	HUGO POWER PLANT - VALLIANT 345 KV WFEC	New 345/138 kv Auto, and 19 miles 345 KV	6/1/2011	6/1/2011

Table 5 - Third Party Facility Constraints

Transmission Owner	UpgradeName	Solution	Earliest Data Upgrade Required (COD)	Estimated Date of Upgrade Completion (EOC)	Estimated Engineering & Construction Cost
AECI	HUBEN (HUBEN) 345/161/13.8KV TRANSFORMER CKT 1	Indeterminate	06/01/16	06/01/16	Indeterminate
AECI	JAMESVILLE - SUB 415 - BLACKHAWK JCT. 69KV CKT 1 AECI	Reset CT	06/01/14	06/01/14	Indeterminate
ENTR	5ST_JOE 161.00 - EVERTON 161KV CKT 1	Indeterminate	10/01/08	10/01/08	Indeterminate
ENTR	DANVILLE (APL) - MAGAZINE REC 161KV CKT 1 ENTR	Rebuild 17.96 miles of 250 Copperweld with 1272 ACSR	06/01/09	06/01/09	Indeterminate
ENTR	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 ENTR	Indeterminate	06/01/09	06/01/09	Indeterminate
ENTR	EVERTON - HARRISON-EAST 161KV CKT 1	Indeterminate	12/01/08	12/01/08	Indeterminate
ENTR	HARRISON-EAST - SUMMIT 161KV CKT 1	Indeterminate	06/01/11	06/01/11	Indeterminate
ENTR	MAGAZINE REC - NORTH MAGAZINE 161KV CKT 1 ENTR	Rebuild 7.43 miles of 250 CWC with 795 ACSR	06/01/09	06/01/09	Indeterminate
ENTR	RUSSELLVILLE EAST - RUSSELLVILLE SOUTH 161KV CKT 1	Indeterminate	06/01/09	06/01/09	Indeterminate