



*Aggregate Facility Study  
SPP-2009-AGP1-AFS-5  
For Transmission Service  
Requested by  
Aggregate Transmission Customers*

*SPP Engineering, SPP Tariff Studies*

SPP AGGREGATE FACILITY STUDY (SPP-2009-AGP1-AFS-5)

April 9, 2010

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## **1. Executive Summary**

Pursuant to Attachment Z1 of the Southwest Power Pool Open Access Transmission Tariff (OATT), 1269 MW of long-term transmission service requests have been restudied in this Aggregate Facility Study (AFS). The principal objective of the AFS is to identify system problems and potential modifications necessary to facilitate these transfers while maintaining or improving system reliability as well as summarizing the operating limits and determination of the financial characteristics associated with facility upgrades. Facility upgrade costs are allocated on a prorated basis to all requests positively impacting any individual overloaded facility. Further, Attachment Z2 provides for facility upgrade cost recovery by stating that “Transmission Customers paying Directly Assigned Upgrade Costs for Service Upgrades or that are in excess of the Safe Harbor Cost Limit for Network Upgrades associated with new or changed Designated Resources and Project Sponsors paying Directly Assigned Upgrade Costs for Sponsored Upgrades shall receive revenue credits in accordance with Attachment Z2. Generation Interconnection Customers paying for Network Upgrades shall receive credits for new transmission service using the facility as specified in Attachment Z1.”

The total assigned facility upgrade Engineering and Construction (E &C) cost determined by the AFS is \$9 Million. Additionally an indeterminate amount of assigned E & C cost for 3<sup>rd</sup> party facility upgrades are assignable to the customer. The total upgrade levelized revenue requirement for all transmission requests is \$44 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 \$1 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 not applicable.

The Transmission Provider will tender a Letter of Intent on April 9th, 2010. 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 April 24<sup>th</sup>, 2010, 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. On August 8, 2008, Southwest Power Pool filed with the Federal Energy Regulatory Commission in Docket ER08-1379-000 to pair open seasons closing during

the period January 1, 2008 through January 31, 2010, with an effective date of August 9, 2008. The 2008-AG1 open season commenced on October 1, 2007 and closed January 31, 2008. The 2008-AG2 open season commenced on February 1, 2007 and closed May 31, 2008. Based on the preceding, all requests for long-term transmission service received prior to February 1, 2008 for 2008 AG-1 and June 1, 2008 for 2008 AG-2 with a signed study agreement have been included in the first paired Aggregate Transmission Service Study (ATSS) of 2008.

Approximately 1269 MW of long-term transmission service has been restudied in this Aggregate Facility Study (AFS) with over \$9 Million in transmission upgrades being proposed. The results of the AFS are detailed in Tables 1 through 6. A highly tangible benefit of studying transmission requests aggregately under the SPP OATT Attachment Z1 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 Z1. The following URL can be used to access the SPP OATT: ([http://www.spp.org/Publications/SPP\\_Tariff.pdf](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 Z1 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 Z2.

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

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

Some constraints identified in the AFS were not assigned to the Customer 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 accelerated, 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 accelerated.

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 applicable. The Transmission Provider will undertake reasonable efforts to assist the Transmission Customer in making arrangements for necessary engineering, permitting, and construction of the third-party facilities. Third-party facility upgrade 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 3<sup>rd</sup> Party Owner detailing the mitigation of the 3<sup>rd</sup> 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 3<sup>rd</sup> party facilities for load that sinks outside the SPP footprint with the applicable Transmission Providers.

### **3. Study Methodology**

#### **A. Description**

The facility study analysis was conducted to determine the steady-state impact of the requested service on the SPP and first tier Non - SPP control area systems. The steady-state analysis was performed 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 105% and 95%. The upper bound and lower bound of the emergency voltage range monitored is 105% and 90%. Transmission Owner voltage monitoring criteria is used if more restrictive. The SPS Tuco 230 kV bus voltage is monitored at 92.5% due to pre-determined system stability limitations. The WERE Wolf Creek 345 kV bus voltage is monitored at 103.5% and 98.5% due to transmission operating procedure.

The contingency set includes all SPP control area branches and ties 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 AECl, AMRN, and ENTR and a 2 % TDF cutoff was applied to WAPA. For voltage monitoring, a 0.02 per unit change in voltage must occur due to the transfer or modeling upgrades to be considered a valid limit to the transfer.

## **B. Model Development**

SPP used seven seasonal models to study the aggregate transfers of 1269 MW over a variety of requested service periods. The SPP STEP 2009 Build 3 Cases 2010 Summer Peak (10SP), 2010/11 Winter Peak (11WP), 2011 Summer Peak (11SP), 2011/12 Winter Peak (11WP), 2014 Summer Peak (14SP), 2014/15 Winter Peak (14WP), and 2019 Summer Peak (19SP) 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 current modeling information. Five groups of requests were developed from the aggregate of 1269 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 seven seasonal models, five system scenarios were developed. Scenario 1 includes SWPP OASIS transmission requests not already included in the SPP 2009 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 2009 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 2009 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 2009 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 2009 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. Network Integration Transmission Service requests are modeled as Generation to Load transfers in addition to Generation to Generation because the requested Network Integration Transmission Service is a request to serve network load with the new designated network resource and the impacts on transmission system are determined accordingly. Point-To-Point Transmission Service requests are modeled as Generation to Generation transfers. Generation to Generation transfers are accomplished by developing a post-transfer case for comparison by dispatching the request source and redispatching the request sink.

### **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 1<sup>st</sup>-Tier) and voltage threshold (0.02 change) were applied to determine the impacted facilities. The PSS/E options chosen to conduct the analysis can be found in Appendix A.

#### **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. In addition, Table 2 identifies SWPA upgrade costs which require prepayment in addition to other allocated costs. Table 3 provides additional details for each request including all assigned facility upgrades required, allocated E & C costs, allocated revenue requirements for upgrades, upgrades not assigned to customer but required for service to be confirmed, credits to be paid for previously

assigned AFS or GI network 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 (DUN), Estimated Date the upgrade will be completed and in service (EOC), and Estimated E & C cost. Table 5 lists identified Third-Party constrained facilities. Table 6 identifies potential redispatch pairs available to relieve the aggregate impacts on identified constraints to prevent deferral of start of service. 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. Additionally, if the request is for wind generation, the total requested capacity of wind generation plus existing wind generation capacity shall not exceed 20% of the Customer's projected system peak responsibility in the first year the Designated Resource is planned to be used by the Customer. If the 5 year term and 125% resource to load criteria are met, (as well as the 20% wind resource to load criteria for wind generation requests) the requested capacity is multiplied by \$180,000 to determine the potential base plan funding allowable. The Maximum Potential Base Plan Funding Allowable may be less than the potential base plan funding allowable due to the E & C Cost allocated to the customer being lower than the potential amount allowable to the customer. The customer is responsible for any assigned upgrade costs in excess of Potential Base Plan Engineering and Construction Funding Allowable. Network upgrades required for wind generation requests located in a zone other than the customer POD shall be allocated as 67% Base Plan Region wide charge and 33% directly assigned to the customer.

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

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

Example A:

E & C allocated for upgrades is 74 million with revenue requirements of 140 million and PTP base rate of 101 million. Potential base plan funding is 47 million with the difference of 27 million E & C assignable to the customer. If the revenue requirements for the assignable portion is 54 million and the PTP base rate is 101 million, the customer will pay the higher “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 Date Upgrade Needed Date (DUN) is the earliest date the upgrade is required to alleviate a constraint considering all requests. End of Construction (EOC) is the estimated date the upgrade will be completed and in service. 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 April 9th, 2010. 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 April 24<sup>th</sup>, 2010, 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 fully base plan funded. The amount of the letter of credit will be adjusted down on an annual basis to reflect cost recovery based on revenue allocation.. The Transmission Provider will issue notifications to construct network upgrades to the constructing Transmission Owner after filing of necessary service agreements at FERC.

## 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 -  Phase shift adjustment

Flat start

Lock DC taps

Lock switched shunts

#### ACCC CASES:

Solutions – AC contingency checking (ACCC)

MW mismatch tolerance – 0.5

System intact rating – Rate A

Contingency case rating – Rate B

Percent of rating – 100

Output code – Summary

Min flow change in overload report – 3mw

Excl'd cases w/ no overloads 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 (Disabled for generator outages)

Var limits - Apply immediately

Solution options -  Phase shift adjustment

Flat start

Lock DC taps

Lock switched shunts

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

Customer	Study Number	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date without interim redispatch	Deferred Stop Date without interim redispatch	Start Date with interim redispatch	Stop Date with interim redispatch	Minimum Allocated ATC (MW) with reservation period	Season of Minimum Allocated ATC within reservation period
AEPM	AG1-2009-021	1565734	WFEC	CSWS	101	1/1/2010	1/1/2030	8/1/2010	8/1/2030	8/1/2010	8/1/2030	0	10SP
AEPM	AG1-2009-022	1565735	CSWS	CSWS	99	1/1/2010	1/1/2030	6/1/2013	6/1/2033	8/1/2010	8/1/2030	0	10SP
AEPM	AG1-2009-027	1567573	CSWS	CSWS	580	6/1/2012	6/1/2022	6/1/2013	6/1/2023	6/1/2012	6/1/2022	0	14SP
KBPU	AG1-2009-017D	1561537	WR	KACY	2	8/1/2009	8/1/2029	8/1/2010	8/1/2030	8/1/2010	8/1/2030	0	10SP
KEPC	AG1-2009-053	1568258	WR	WR	25	10/1/2009	10/1/2029	6/1/2013	6/1/2033	8/1/2010	8/1/2030	0	10SP
KEPC	AG1-2009-054	1568259	WR	WR	7	10/1/2009	10/1/2029	10/1/2012	10/1/2032	8/1/2010	8/1/2030	0	10SP
KEPC	AG1-2009-055	1568260	WR	WR	14	10/1/2009	10/1/2029	6/1/2013	6/1/2033	8/1/2010	8/1/2030	0	10SP
KMEA	AG3-2008-025	1518801	NPPD	KCPL	7	5/1/2009	5/1/2014	10/1/2012	10/1/2017	10/1/2012	10/1/2017	0	10SP
KMEA	AG3-2008-028	1518806	NPPD	SECI	1	5/1/2009	5/1/2014	8/1/2010	8/1/2015	8/1/2010	8/1/2015	0	10SP
KMEA	AG3-2008-030	1518831	NPPD	SECI	1	5/1/2010	5/1/2015	8/1/2010	8/1/2015	8/1/2010	8/1/2015	0	10SP
KMEA	AG3-2008-037	1518842	SECI	SECI	5	10/1/2009	10/1/2014	8/1/2010	8/1/2015	8/1/2010	8/1/2015	0	10SP
KMEA	AG3-2008-039	1518845	NPPD	SECI	1	10/1/2009	10/1/2014	8/1/2010	8/1/2015	8/1/2010	8/1/2015	0	10SP
KMEA	AG1-2009-005	1541894	GRDA	SECI	3	8/1/2009	8/1/2027	8/1/2010	8/1/2028	8/1/2010	8/1/2028	0	10SP
KMEA	AG1-2009-050	1568248	SECI	WR	2	1/1/2010	1/1/2015	8/1/2010	8/1/2015	8/1/2010	8/1/2015	0	10SP
NTEC	AG1-2009-029	1567817	CSWS	CSWS	335	1/1/2015	1/1/2040	1/1/2015	1/1/2040	1/1/2015	1/1/2040	0	19SP
OMPA	AG1-2009-023	1566503	OKGE	SPA	61	6/1/2010	6/1/2015	6/1/2011	6/1/2016	6/1/2011	6/1/2016	0	10SP
SPRM	AG1-2009-020	1562368	WR	SPA	25	1/1/2010	1/1/2029	6/1/2014	6/1/2033	8/1/2010	8/1/2029	0	10SP

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

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

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

Customer	Study Number	Reservation	Engineering and Construction Cost of Upgrades Allocated to Customer for Revenue Requirements	<sup>1</sup> Letter of Credit Amount Required	<sup>2</sup> Potential Base Plan Engineering and Construction Funding Allowable	Notes	<sup>4</sup> Additional Engineering and Construction Cost for 3rd Party Upgrades	<sup>3</sup> Total Revenue Requirements for Assigned Upgrades Over Term of Reservation WITHOUT Potential Base Plan Funding Allocation	<sup>3,5</sup> Total Revenue Requirements for Assigned Upgrades Over Term of Reservation WITH Potential Base Plan Funding Allocation	Point-to-Point Base Rate Over Reservation Period	<sup>4</sup> Total Cost of Reservation Assignable to Customer Contingent Upon Base Plan Funding
AEPM	AG1-2009-021	1565734	\$ 1,154,194	\$ 100,000	\$ 1,054,194		\$ -	\$ 23,711,356	\$ 201,500	\$ -	\$ 201,500
AEPM	AG1-2009-022	1565735	\$ 2,434,720	\$ 166,667	\$ 2,268,053		\$ -	\$ 6,799,542	\$ 420,351	\$ -	\$ 420,351
AEPM	AG1-2009-027	1567573	\$ 5,246,039	\$ -	\$ 5,246,039		\$ -	\$ 12,583,731	\$ -	\$ -	Schedule 9 & 11 Charges
KBPU	AG1-2009-017D	1561537	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ 484,800	\$ 484,800
KEPC	AG1-2009-053	1568258	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	Schedule 9 & 11 Charges
KEPC	AG1-2009-054	1568259	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	Schedule 9 & 11 Charges
KEPC	AG1-2009-055	1568260	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	Schedule 9 & 11 Charges
KMEA	AG1-2009-005	1541894	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	Schedule 9 & 11 Charges
KMEA	AG1-2009-050	1568248	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ 351,720	\$ 351,720
KMEA	AG3-2008-025	1518801	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	Schedule 9 & 11 Charges
KMEA	AG3-2008-028	1518806	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ 266,102	\$ 266,102
KMEA	AG3-2008-030	1518831	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	Schedule 9 & 11 Charges
KMEA	AG3-2008-037	1518842	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	Schedule 9 & 11 Charges
KMEA	AG3-2008-039	1518845	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ 266,102	\$ 266,102
NTEC	AG1-2009-029	1567817	\$ 215,963	\$ -	\$ 215,963	Indeterminate	\$ 1,096,963	\$ -	\$ -	\$ -	Schedule 9 & 11 Charges
OMPA	AG1-2009-023	1566503	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	Schedule 9 & 11 Charges
SPRM	AG1-2009-020	1562368	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	Schedule 9 & 11 Charges
<b>Grand Total</b>			<b>\$ 9,050,916</b>		<b>\$ 8,784,249</b>			<b>\$ 44,191,592</b>	<b>\$ 621,851</b>		

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

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

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

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

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

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

Customer Study Number  
 AEPM AG1-2009-021

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
AEPM	1565734	WFEC	CSWS	101	1/1/2010	1/1/2030	8/1/2010	8/1/2030	\$ 1,054,194	-	\$ 1,154,194	\$ 23,711,356
									\$ 1,054,194	\$ -	\$ 1,154,194	\$ 3,053,768

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1565734	ALTUS SW - NAVAJO 69KV CKT 1	8/1/2010	6/1/2013			\$ 100,000	\$ 50,000	\$ 150,000	\$ 150,000	\$ 310,079
	G03-05T 138.00 - PARADISE 138KV CKT 1	6/1/2015	6/1/2015			\$ 100,000	\$ 50,000	\$ 150,000	\$ 150,000	\$ 294,420
	RIVERSIDE STATION - TULSA POWER STATION 138KV CKT 1	6/1/2012	6/1/2012			\$ 64,698	\$ -	\$ 64,698	\$ 800,000	\$ 197,504
	SOUTHWEST SHREVEPORT - SPRINGRIDGE PAN-HARR REC 138KV CKT 1	6/1/2012	6/1/2013			\$ 762,009	\$ -	\$ 762,009	\$ 7,200,000	\$ 2,173,367
	TEXAS EASTMAN - WHITNEY 138KV CKT 1 Accelerated	6/1/2012	6/1/2013			\$ 27,487	\$ -	\$ 27,487	\$ 250,917	\$ 78,397
Total						\$ 1,054,194	\$ 100,000	\$ 1,154,194	\$ 8,550,917	\$ 3,053,768

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1565734	BOWERS INTERCHANGE 115/69KV TRANSFORMER CKT 2	6/1/2018	6/1/2018		
	FRIO-DRAW - POTTER 345 KV	6/1/2015	6/1/2015		
	POTTER - ANADARKO 345 KV	6/1/2017	6/1/2017		
	SNYDER - TIPTON JCT 69KV CKT 1	8/1/2010	6/1/2011		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1565734	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1	6/1/2015	6/1/2015		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1565734	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV WFEC	7/1/2012	7/1/2012		
	HUGO POWER PLANT 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012		
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		

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

Customer Study Number  
 AEPM AG1-2009-022

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
AEPM	1565735	CSWS	CSWS	99	1/1/2010	1/1/2030	6/1/2013	6/1/2033	\$ 2,268,053	-	\$ 2,434,720	\$ 6,799,542
									\$ 2,268,053	-	\$ 2,434,720	\$ 6,799,542

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1565735	CHERRYB 230.00 - Harrington Station East Bus 230KV CKT 1	6/1/2011	6/1/2013			\$ 333,333	\$ 166,667	\$ 500,000	\$ 500,000	\$ 1,261,053
	RIVERSIDE STATION - TULSA POWER STATION 138KV CKT 1	6/1/2012	6/1/2012			\$ 101,560	\$ -	\$ 101,560	\$ 800,000	\$ 310,034
	SOUTHWEST SHREVEPORT - SPRINGRIDGE PAN-HARR REC 138KV CKT 1	6/1/2012	6/1/2013		Yes	\$ 1,769,707	\$ -	\$ 1,769,707	\$ 7,200,000	\$ 5,047,478
	TEXAS EASTMAN - WHITNEY 138KV CKT 1 Accelerated	6/1/2012	6/1/2013		Yes	\$ 63,453	\$ -	\$ 63,453	\$ 250,917	\$ 180,978
	Total					\$ 2,268,053	\$ 166,667	\$ 2,434,720	\$ 8,750,917	\$ 6,799,542

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1565735	AMARILLO SOUTH - RANDALL 230 KV CKT 1	6/1/2015	6/1/2015		
	BOWERS INTERCHANGE 115/69KV TRANSFORMER CKT 2	6/1/2018	6/1/2018		
	CHERRY SUB 230/115 KV TRANSFORMER CKT 1	6/1/2017	6/1/2017		
	FRIO-DRAW - POTTER 345 KV	6/1/2015	6/1/2015		
	HASTINGS 115 KV CONVERSION	6/1/2012	6/1/2012		
	POTTER - ANADARKO 345 KV	6/1/2017	6/1/2017		
	RANDALL 230/115 KV TRANSFORMER CKT 2	6/1/2012	6/1/2013		Yes

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1565735	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1	6/1/2015	6/1/2015		
	STILWELL - WEST GARDNER 345KV CKT 1	6/1/2012	6/1/2012		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1565735	NORTHWEST INTERCHANGE - SUNSET SUB 115KV CKT 1	6/1/2017	6/1/2017		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1565735	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV WFEC	7/1/2012	7/1/2012		
	HUGO POWER PLANT 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012		
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 2	1/1/2010	1/1/2010		
	WOODWARD 345/138KV TRANSFORMER CKT 1	1/1/2010	1/1/2010		

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

**Customer Study Number**  
 AEPM AG1-2009-027

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
AEPM	1567573	CSWS	CSWS	580	6/1/2012	6/1/2022	6/1/2013	6/1/2023	\$ 5,246,039	-	\$ 5,246,039	\$ 12,583,731
									\$ 5,246,039	\$ -	\$ 5,246,039	\$ 12,583,731

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1567573	RIVERSIDE STATION - TULSA POWER STATION 138KV CKT 1	6/1/2012	6/1/2012			\$ 417,779	\$ 800,000	\$ 1,066,839
	SOUTHWEST SHREVEPORT - SPRINGRIDGE PAN-HARR REC 138KV CKT 1	6/1/2012	6/1/2013		Yes	\$ 4,668,284	\$ 7,200,000	\$ 11,135,300
	TEXAS EASTMAN - WHITNEY 138KV CKT 1 Accelerated	6/1/2012	6/1/2013		Yes	\$ 159,976	\$ 250,917	\$ 381,592
	<b>Total</b>					\$ 5,246,039	\$ 8,250,917	\$ 12,583,731

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1567573	FRIIO-DRAW - POTTER 345 KV	6/1/2015	6/1/2015		
	POTTER - ANADARKO 345 KV	6/1/2017	6/1/2017		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1567573	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1	6/1/2015	6/1/2015		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1567573	ARCADIA - REDBUD 345KV CKT 3	6/1/2019	6/1/2019		
	ARCADIA (ARCADIA2) 345/138/13.8KV TRANSFORMER CKT 1	6/1/2012	6/1/2013		Yes
	BROKEN ARROW NORTH - SOUTH TAP - ONETA 138KV CKT 1	6/1/2015	6/1/2015		
	BRYANT - MEMORIAL 138KV CKT 1	6/1/2012	6/1/2019		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1567573	BANN - RED SPRINGS REC 138KV CKT 1	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV WFEC	7/1/2012	7/1/2012		
	HUGO POWER PLANT 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012		



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

**Customer**      **Study Number**  
 KBPU            AG1-2009-017D

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	1561537	WR	KACY	2	8/1/2009	8/1/2029	8/1/2010	8/1/2030	\$ -	\$ 484,800	\$ -	\$ -
									\$ -	\$ 484,800	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1561537	NASHUA - SMITHVILLE 161KV CKT 1	8/1/2010	10/1/2010			\$ -	\$ -	\$ -
	PLATTE CITY - SMITHVILLE 161KV CKT 1	8/1/2010	10/1/2010			\$ -	\$ -	\$ -
	<b>Total</b>					\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1561537	South Harper 161 kV cut-in to Stilwell-Archie JCT 161 kV line	8/1/2010	6/1/2011		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1561537	STILWELL - WEST GARDNER 345KV CKT 1	6/1/2012	6/1/2012		
	SUB 124 - AURORA H.T. - SUB 383 - MONETT 161KV CKT 1	6/1/2015	6/1/2015		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1561537	KCI - Platte City 161kV Ckt 1	8/1/2010	6/1/2011		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1561537	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		

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

Customer Study Number  
 KEPC AG1-2009-053

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
KEPC	1568258	WR	WR	25	10/1/2009	10/1/2029	6/1/2013	6/1/2033	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1568258	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568258	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2			6/1/2015	6/1/2013
	BOWERS INTERCHANGE 115/69KV TRANSFORMER CKT 2			6/1/2018	6/1/2018
	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1			6/1/2012	6/1/2012
	CLEARWATER - MILAN TAP 138KV CKT 1 MKEC			6/1/2019	6/1/2019
	CLEARWATER - MILAN TAP 138KV CKT 1 WERE			6/1/2019	6/1/2019
	FLETCHER - HOLCOMB 115KV CKT 1			6/1/2015	6/1/2015
	FRIO-DRAW - POTTER 345 KV			6/1/2015	6/1/2015
	GILL ENERGY CENTER EAST - INTERSTATE 138KV CKT 1			6/1/2015	6/1/2015
	HARPER - MILAN TAP 138KV CKT 1			6/1/2019	6/1/2019
	HOLCOMB - PLYMELL 115KV CKT 1			8/1/2010	10/31/2010
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 MIDW			6/1/2015	6/1/2015
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 WERE			6/1/2015	6/1/2015
	HUNTSVILLE - ST JOHN 115KV CKT 1			6/1/2015	6/1/2015
	JOHNSON CORNER - PIONEER 115 KV CKT 1			6/1/2015	6/1/2015
	JOHNSON CORNER 115 KV CAP			6/1/2015	6/1/2015
	JOHNSON CORNER 115 KV CAP #2			6/1/2015	6/1/2015
	JONES - TUCO 345KV CKT 1			6/1/2018	6/1/2018
	PIONEER TAP - PLYMELL 115KV CKT 1			8/1/2010	10/31/2010
	POTTER - ANADARKO 345 KV			6/1/2017	6/1/2017
	PRATT - ST JOHN 115 KV CKT 1			6/1/2011	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568258	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1			6/1/2015	6/1/2015
	HEIZER - MULLERGREN 115 KV CKT 1 MIDW			8/1/2010	6/1/2011
	HEIZER - MULLERGREN 115 KV CKT 1 MKEC			8/1/2010	6/1/2011
	STILWELL - WEST GARDNER 345KV CKT 1			6/1/2012	6/1/2012

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568258	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1			6/1/2014	6/1/2014
	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			6/1/2015	6/1/2015
	FLATRDG3 138.00 - HARPER 138KV CKT 1			6/1/2015	6/1/2015
	GILL ENERGY CENTER EAST - MACARTHUR 69KV CKT 1 Accelerated			6/1/2013	6/1/2013
	JEWELL - SMITH CENTER 115KV CKT 1			6/1/2015	6/1/2015
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Accelerated			6/1/2013	6/1/2013
	POST ROCK - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	POST ROCK - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	POST ROCK 345/230 KV TRANSFORMER			8/1/2010	6/1/2013
	SPEARVILLE - POST ROCK 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - POST ROCK 345 KV CKT 1 SUNC			8/1/2010	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 SUNC			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	WOLF 345/230 KV TRANSFORMER			8/1/2010	6/1/2013

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

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568258	CLIFTON - GREENLEAF 115KV CKT 1	6/1/2011	6/1/2013		
	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1	12/1/2009	6/1/2013		
	FLATRDG3 138.00 - HARPER 138KV CKT 1	12/1/2009	6/1/2013		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV WFEC	7/1/2012	7/1/2012		
	HUGO POWER PLANT 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012		
	KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1	6/1/2006	6/1/2008		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		
	MEDICINE LODGE - PRATT 115KV CKT 1	12/1/2009	6/1/2013		
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Displacement	12/1/2009	6/1/2013		
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - IODINE 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 2	1/1/2010	1/1/2010		
	WOODWARD 345/138KV TRANSFORMER CKT 1	1/1/2010	1/1/2010		

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

Customer Study Number  
KEPC AG1-2009-054

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
KEPC	1568259	WR	WR		7	10/1/2009	10/1/2029	10/1/2012	10/1/2032	\$ -	\$ -	\$ -
										\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1568259	None					\$ -	\$ -	\$ -
					Total	\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568259	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2			6/1/2015	6/1/2013
	BOWERS INTERCHANGE 115/69KV TRANSFORMER CKT 2			6/1/2018	6/1/2018
	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1			6/1/2012	6/1/2012
	CLEARWATER - MILAN TAP 138KV CKT 1 MKEC			6/1/2019	6/1/2019
	CLEARWATER - MILAN TAP 138KV CKT 1 WERE			6/1/2019	6/1/2019
	FLETCHER - HOLCOMB 115KV CKT 1			6/1/2015	6/1/2015
	FRIO-DRAW - POTTER 345 KV			6/1/2015	6/1/2015
	GILL ENERGY CENTER EAST - INTERSTATE 138KV CKT 1			6/1/2015	6/1/2015
	HARPER - MILAN TAP 138KV CKT 1			6/1/2019	6/1/2019
	HOLCOMB - PLYMELL 115KV CKT 1			8/1/2010	10/31/2010
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 MIDW			6/1/2015	6/1/2013
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 WERE			6/1/2015	6/1/2013
	HUNTSVILLE - ST JOHN 115KV CKT 1			6/1/2015	6/1/2014
	JOHNSON CORNER - PIONEER 115 KV CKT 1			6/1/2015	5/31/2010
	JOHNSON CORNER 115 KV CAP			6/1/2015	8/31/2011
	JOHNSON CORNER 115 KV CAP #2			6/1/2015	8/31/2012
	JONES - TUCO 345KV CKT 1			6/1/2018	6/1/2018
	PIONEER TAP - PLYMELL 115KV CKT 1			8/1/2010	10/31/2010
	POTTER - ANADARKO 345 KV			6/1/2017	6/1/2017
	PRATT - ST JOHN 115 KV CKT 1			6/1/2011	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568259	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1			6/1/2015	6/1/2015
	HEIZER - MULLERGREN 115 KV CKT 1 MIDW			8/1/2010	6/1/2011
	HEIZER - MULLERGREN 115 KV CKT 1 MKEC			8/1/2010	10/1/2012
	STILWELL - WEST GARDNER 345KV CKT 1			6/1/2012	6/1/2012

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568259	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1			6/1/2014	6/1/2014
	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			6/1/2015	6/1/2015
	FLATRDG3 138.00 - HARPER 138KV CKT 1			6/1/2015	6/1/2013
	GILL ENERGY CENTER EAST - MACARTHUR 69KV CKT 1 Accelerated			6/1/2013	6/1/2012
	JEWELL - SMITH CENTER 115KV CKT 1			6/1/2015	6/1/2015
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Accelerated			6/1/2013	6/1/2013
	POST ROCK - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	POST ROCK - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	POST ROCK 345/230 KV TRANSFORMER			8/1/2010	6/1/2013
	SPEARVILLE - POST ROCK 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - POST ROCK 345 KV CKT 1 SUNC			8/1/2010	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 SUNC			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	WOLF 345/230 KV TRANSFORMER			8/1/2010	6/1/2013

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

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568259	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1	12/1/2009	6/1/2013		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		
	MEDICINE LODGE - PRATT 115KV CKT 1	12/1/2009	6/1/2013		
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Displacement	12/1/2009	6/1/2013		
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		

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

Customer Study Number  
 KEPC AG1-2009-055

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
KEPC	1568260	WR	WR	14	10/1/2009	10/1/2029	6/1/2013	6/1/2033	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1568260	None					\$ -	\$ -	\$ -
					Total	\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568260	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2	6/1/2015	6/1/2015	6/1/2013	
	BOWERS INTERCHANGE 115/69KV TRANSFORMER CKT 2	6/1/2018	6/1/2018		
	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1	6/1/2012	6/1/2012	6/1/2011	
	CLEARWATER - MILAN TAP 138KV CKT 1 MKEC	6/1/2019	6/1/2019		
	CLEARWATER - MILAN TAP 138KV CKT 1 WERE	6/1/2019	6/1/2019		
	FLETCHER - HOLCOMB 115KV CKT 1	6/1/2015	6/1/2015		
	FRIO-DRAW - POTTER 345 KV	6/1/2015	6/1/2015		
	GILL ENERGY CENTER EAST - INTERSTATE 138KV CKT 1	6/1/2015	6/1/2015	6/1/2014	
	HARPER - MILAN TAP 138KV CKT 1	6/1/2019	6/1/2019		
	HOLCOMB - PLYMELL 115KV CKT 1	8/1/2010	10/31/2010		Yes
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 MIDW	6/1/2015	6/1/2015	6/1/2013	
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 WERE	6/1/2015	6/1/2015	6/1/2013	
	HUNTSVILLE - ST JOHN 115KV CKT 1	6/1/2015	6/1/2015	6/1/2014	
	JOHNSON CORNER - PIONEER 115 KV CKT 1	6/1/2015	6/1/2015	5/31/2010	
	JOHNSON CORNER 115 KV CAP	6/1/2015	6/1/2015	8/31/2011	
	JOHNSON CORNER 115 KV CAP #2	6/1/2015	6/1/2015	8/31/2012	
	JONES - TUCO 345KV CKT 1	6/1/2018	6/1/2018		
	PIONEER TAP - PLYMELL 115KV CKT 1	8/1/2010	10/31/2010		Yes
	POTTER - ANADARKO 345 KV	6/1/2017	6/1/2017		
	PRATT - ST JOHN 115 KV CKT 1	6/1/2011	6/1/2013		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568260	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1	6/1/2015	6/1/2015		
	HEIZER - MULLERGREN 115 KV CKT 1 MIDW	8/1/2010	6/1/2011	10/1/2012	
	HEIZER - MULLERGREN 115 KV CKT 1 MKEC	8/1/2010	6/1/2011	10/1/2012	
	STILWELL - WEST GARDNER 345KV CKT 1	6/1/2012	6/1/2012		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568260	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1	6/1/2014	6/1/2014		
	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1	6/1/2015	6/1/2015	6/1/2013	
	FLATRDG3 138.00 - HARPER 138KV CKT 1	6/1/2015	6/1/2015	6/1/2013	
	GILL ENERGY CENTER EAST - MACARTHUR 69KV CKT 1 Accelerated	6/1/2013	6/1/2013	6/1/2012	
	JEWELL - SMITH CENTER 115KV CKT 1	6/1/2015	6/1/2015		
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Accelerated	6/1/2013	6/1/2013		
	POST ROCK - AXTELL 345 KV CKT 1 MIDW	8/1/2010	6/1/2013		Yes
	POST ROCK - AXTELL 345 KV CKT 1 NPPD	8/1/2010	6/1/2013		Yes
	POST ROCK 345/230 KV TRANSFORMER	8/1/2010	6/1/2013		Yes
	SPEARVILLE - POST ROCK 345 KV CKT 1 MIDW	8/1/2010	6/1/2013		Yes
	SPEARVILLE - POST ROCK 345 KV CKT 1 SUNC	8/1/2010	6/1/2013		Yes
	SPEARVILLE - WOLF 345 KV CKT 1 MIDW	8/1/2010	6/1/2013	10/1/2012	Yes
	SPEARVILLE - WOLF 345 KV CKT 1 SUNC	8/1/2010	6/1/2013	10/1/2012	Yes
	WOLF - AXTELL 345 KV CKT 1 MIDW	8/1/2010	6/1/2013	10/1/2012	Yes
	WOLF - AXTELL 345 KV CKT 1 NPPD	8/1/2010	6/1/2013	10/1/2012	Yes
	WOLF 345/230 KV TRANSFORMER	8/1/2010	6/1/2013	10/1/2012	Yes

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

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568260	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1	12/1/2009	6/1/2013		
	FLATRDG3 138.00 - HARPER 138KV CKT 1	12/1/2009	6/1/2013		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV WFEC	7/1/2012	7/1/2012		
	HUGO POWER PLANT 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		
	MEDICINE LODGE - PRATT 115KV CKT 1	12/1/2009	6/1/2013		
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Displacement	12/1/2009	6/1/2013		
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD 345/138KV TRANSFORMER CKT 1	1/1/2010	1/1/2010		

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

**Customer** Study Number  
KMEA AG1-2009-005

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KMEA	1541894	GRDA	SECI	3	8/1/2009	8/1/2027	8/1/2010	8/1/2028	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1541894	None					\$ -	\$ -	\$ -
					Total	\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1541894	AFTON (AFTAUTO1) 161/69/13.8KV TRANSFORMER CKT 1			8/1/2010	6/1/2011
	BEATRICE - HARBINE 115KV CKT 1			6/1/2019	6/1/2019
	BOWERS INTERCHANGE 115/69KV TRANSFORMER CKT 2			6/1/2018	6/1/2018
	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1			6/1/2012	6/1/2012
	CLEARWATER - MILAN TAP 138KV CKT 1 MKEC			6/1/2019	6/1/2019
	CLEARWATER - MILAN TAP 138KV CKT 1 WERE			6/1/2019	6/1/2019
	FRIO-DRAW - POTTER 345 KV			6/1/2015	6/1/2015
	HARPER - MILAN TAP 138KV CKT 1			6/1/2019	6/1/2019
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 MIDW			6/1/2015	6/1/2015
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 WERE			6/1/2015	6/1/2013
	HUNTSVILLE - ST JOHN 115KV CKT 1			6/1/2015	6/1/2014
	JOHNSON CORNER - PIONEER 115 KV CKT 1			6/1/2015	6/1/2015
	JOHNSON CORNER 115 KV CAP			6/1/2015	6/1/2015
	JOHNSON CORNER 115 KV CAP #2			6/1/2015	6/1/2015
	JONES - TUCO 345KV CKT 1			6/1/2018	6/1/2018
	Multi - Stateline - Joplin - Reinmiller conversion			6/1/2018	6/1/2018
	POTTER - ANADARKO 345 KV			6/1/2017	6/1/2017
	PRATT - ST JOHN 115 KV CKT 1			6/1/2011	6/1/2013
	PRYOR JUNCTION (PRY-JCT1) 115/69/13.8KV TRANSFORMER CKT 1			6/1/2011	6/1/2012

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1541894	BROOKLINE - SUMMIT 345 kV CKT 1			6/1/2012	6/1/2014
	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1			6/1/2015	6/1/2015

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1541894	ARCADIA - REDBUD 345KV CKT 3			6/1/2019	6/1/2019
	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1			12/1/2010	6/1/2011
	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1			6/1/2014	6/1/2014
	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			6/1/2015	6/1/2015
	FLATRDG3 138.00 - HARPER 138KV CKT 1			6/1/2015	6/1/2015
	JEWELL - SMITH CENTER 115KV CKT 1			6/1/2015	6/1/2015
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Accelerated			6/1/2013	6/1/2013
	POST ROCK - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	POST ROCK - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	POST ROCK 345/230 KV TRANSFORMER			8/1/2010	6/1/2013
	ROSE HILL (ROSEHL1X) 345/138/13.8KV TRANSFORMER CKT 3 Expedite			8/1/2010	6/1/2012
	SEWARD - ST JOHN 115KV CKT 1			8/1/2010	6/1/2011
	SPEARVILLE - POST ROCK 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - POST ROCK 345 KV CKT 1 SUNC			8/1/2010	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 SUNC			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	WOLF 345/230 KV TRANSFORMER			8/1/2010	6/1/2013



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

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1541894	FLATRDG3 - 138.00 - MEDICINE LODGE 138KV CKT 1	12/1/2009	6/1/2013		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		
	MEDICINE LODGE - PRATT 115KV CKT 1	12/1/2009	6/1/2013		
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Displacement	12/1/2009	6/1/2013		
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	SUB 110 - ORONOGO JCT. - SUB 167 - RIVERTON 161KV CKT 1	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  
KMEA AG1-2009-050

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KMEA	1568248	SECI	WR	2	1/1/2010	1/1/2015	8/1/2010	8/1/2015	\$ -	\$ 351,720	\$ -	\$ -
									\$ -	\$ 351,720	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1568248	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568248	AMARILLO SOUTH - RANDALL 230 KV CKT 1			6/1/2015	6/1/2015
	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1			6/1/2012	6/1/2012
	EAST MANHATTAN - MCDOWELL 115kv to 230 kv conversion			8/1/2010	6/1/2012
	FLETCHER - HOLCOMB 115KV CKT 1			6/1/2015	6/1/2015
	FRIO-DRAW - POTTER 345 KV			6/1/2015	6/1/2015
	G06-21T - HARPER 138KV CKT 1			6/1/2014	6/1/2014
	G06-21T - MEDICINE LODGE 138KV CKT 1			6/1/2014	6/1/2014
	HEC - HUNTSVILLE 115KV CKT 1 WERE			6/1/2014	6/1/2014
	HEC - HUNTSVILLE 115KV CKT 1 MKEC			6/1/2014	6/1/2014
	HITCHLAND INTERCHANGE 230/115KV TRANSFORMER CKT 1			8/1/2010	6/1/2011
	HOLCOMB - PLYMELL 115KV CKT 1			8/1/2010	10/31/2010
	HUNTSVILLE - ST. JOHN 115KV CKT 1			6/1/2014	6/1/2014
	JOHNSON CORNER - PIONEER 115 KV CKT 1			6/1/2015	6/1/2015
	JOHNSON CORNER 115 KV CAP			6/1/2015	6/1/2015
	JOHNSON CORNER 115 KV CAP #2			6/1/2015	6/1/2015
	MEDICINE LODGE - PRATT 115KV CKT 1			6/1/2014	6/1/2014
	MEDICINE LODGE (MED-LDG4) 138/115/13.8KV TRANSFORMER CKT 1			6/1/2014	6/1/2014
	PIONEER TAP - PLYMELL 115KV CKT 1			8/1/2010	10/31/2010
	PRATT - ST. JOHN 115KV CKT 1			6/1/2014	6/1/2014

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568248	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1			6/1/2015	6/1/2015

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568248	ROSE HILL (ROSEHL1X) 345/138/13.8KV TRANSFORMER CKT 3 Expedite			8/1/2010	6/1/2012
	SEWARD - ST JOHN 115KV CKT 1			8/1/2010	6/1/2011

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1568248	FLATRDG3 138.00 - HARPER 138KV CKT 1			12/1/2009	6/1/2013
	LACYGNE - WEST GARDNER 345KV CKT 1			6/1/2006	6/1/2006
	MEDICINE LODGE - PRATT 115KV CKT 1			12/1/2009	6/1/2013
	NORTHWEST - WOODWARD 345KV CKT 1			1/1/2010	1/1/2010

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

**Customer Study Number**  
KMEA AG3-2008-025

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KMEA	1518801	NPPD	KCPL	7	5/1/2009	5/1/2014	10/1/2012	10/1/2017	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1518801	NASHUA - SMITHVILLE 161KV CKT 1	8/1/2010	10/1/2010			\$ -	\$ -	\$ -
	PLATTE CITY - SMITHVILLE 161KV CKT 1	8/1/2010	10/1/2010			\$ -	\$ -	\$ -
					Total	\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518801	AMARILLO SOUTH - RANDALL 230 KV CKT 1	6/1/2015	6/1/2015		
	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2	6/1/2015	6/1/2015	6/1/2013	
	FRIO-DRAW - POTTER 345 KV	6/1/2015	6/1/2015		
	HITCHLAND INTERCHANGE 230/115KV TRANSFORMER CKT 1	8/1/2010	6/1/2011		
	JOHNSON CORNER - PIONEER 115 KV CKT 1	6/1/2015	6/1/2015	5/31/2010	
	JOHNSON CORNER 115 KV CAP	6/1/2015	6/1/2015	8/31/2011	
	JOHNSON CORNER 115 KV CAP #2	6/1/2015	6/1/2015	8/31/2012	
	POTTER - ANADARKO 345 KV	6/1/2017	6/1/2017		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518801	CANADAY - LEXINGTON 115KV CKT 1	12/1/2010	6/1/2013		
	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1	6/1/2015	6/1/2015		
	STILWELL - WEST GARDNER 345KV CKT 1	6/1/2012	6/1/2012		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518801	KCI - Platte City 161kV Ckt 1	8/1/2010	6/1/2011		
	SPEARVILLE - WOLF 345 KV CKT 1 MIDW	8/1/2010	6/1/2013	10/1/2012	
	SPEARVILLE - WOLF 345 KV CKT 1 SUNC	8/1/2010	6/1/2013	10/1/2012	
	WOLF - AXTELL 345 KV CKT 1 MIDW	8/1/2010	6/1/2013	10/1/2012	
	WOLF - AXTELL 345 KV CKT 1 NPPD	8/1/2010	6/1/2013	10/1/2012	
	WOLF 345/230 KV TRANSFORMER	8/1/2010	6/1/2013	10/1/2012	

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518801	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		

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

**Customer Study Number**  
KMEA AG3-2008-028

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KMEA	1518806	NPPD	SECI	1	5/1/2009	5/1/2014	8/1/2010	8/1/2015	\$ -	\$ 266.102	\$ -	\$ -
									\$ -	\$ 266.102	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1518806	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518806	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1			6/1/2012	6/1/2011
	FLETCHER - HOLCOMB 115KV CKT 1			6/1/2015	6/1/2015
	FRIO-DRAW - POTTER 345 KV			6/1/2015	6/1/2015
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 MIDW			6/1/2015	6/1/2013
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 WERE			6/1/2015	6/1/2013
	HUNTSVILLE - ST JOHN 115KV CKT 1			6/1/2015	6/1/2014
	JOHNSON CORNER - PIONEER 115 KV CKT 1			6/1/2015	5/31/2010
	JOHNSON CORNER 115 KV CAP			6/1/2015	8/31/2011
	JOHNSON CORNER 115 KV CAP #2			6/1/2015	8/31/2012
	PRATT - ST JOHN 115 KV CKT 1			6/1/2011	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518806	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1			6/1/2015	6/1/2015
	HEIZER - MULLERGREIN 115 KV CKT 1 MIDW			8/1/2010	6/1/2011
	HEIZER - MULLERGREIN 115 KV CKT 1 MKEC			8/1/2010	6/1/2011
	OGALLALA 230/115KV TRANSFORMER CKT 2			8/1/2010	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518806	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			6/1/2015	6/1/2013
	FLATRDG3 138.00 - HARPER 138KV CKT 1			6/1/2015	6/1/2013
	JEWELL - SMITH CENTER 115KV CKT 1			6/1/2015	6/1/2015
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Accelerated			6/1/2013	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 SUNC			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	WOLF 345/230 KV TRANSFORMER			8/1/2010	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518806	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			12/1/2009	6/1/2013
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Displacement			12/1/2009	6/1/2013
	NORTHWEST - WOODWARD 345KV CKT 1			1/1/2010	1/1/2010

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

Customer Study Number  
KMEA AG3-2008-030

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KMEA	1518831	NPPD	SECI	1	5/1/2010	5/1/2015	8/1/2010	8/1/2015	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1518831	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518831	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1			6/1/2012	6/1/2011
	HOLCOMB - PLYMELL 115KV CKT 1			8/1/2010	10/31/2010
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 MIDW			6/1/2015	6/1/2015
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 WERE			6/1/2015	6/1/2013
	HUNTSVILLE - ST JOHN 115KV CKT 1			6/1/2015	6/1/2014
	JOHNSON CORNER - PIONEER 115 KV CKT 1			6/1/2015	5/31/2010
	JOHNSON CORNER 115 KV CAP			6/1/2015	8/31/2011
	JOHNSON CORNER 115 KV CAP #2			6/1/2015	8/31/2012
	PIONEER TAP - PLYMELL 115KV CKT 1			8/1/2010	10/31/2010
	PRATT - ST JOHN 115 KV CKT 1			6/1/2011	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518831	CANADAY - LEXINGTON 115KV CKT 1			12/1/2010	6/1/2013
	OGALLALA 230/115KV TRANSFORMER CKT 2			8/1/2010	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518831	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1			6/1/2014	6/1/2014
	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			6/1/2015	6/1/2015
	FLATRDG3 138.00 - HARPER 138KV CKT 1			6/1/2015	6/1/2015
	JEWELL - SMITH CENTER 115KV CKT 1			6/1/2015	6/1/2015
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Accelerated			6/1/2013	6/1/2013
	POST ROCK - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	POST ROCK - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	POST ROCK 345/230 KV TRANSFORMER			8/1/2010	6/1/2013
	ROSE HILL (ROSEHLX) 345/138/13.8KV TRANSFORMER CKT 3 Expedite			8/1/2010	6/1/2012
	SEWARD - ST JOHN 115KV CKT 1			8/1/2010	6/1/2011
	SPEARVILLE - POST ROCK 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - POST ROCK 345 KV CKT 1 SUNC			8/1/2010	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 SUNC			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	WOLF 345/230 KV TRANSFORMER			8/1/2010	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518831	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			12/1/2009	6/1/2013
	MEDICINE LODGE - PRATT 115KV CKT 1			12/1/2009	6/1/2013
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Displacement			12/1/2009	6/1/2013

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

Customer Study Number  
KMEA AG3-2008-037

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KMEA	1518842	SECI	SECI	5	10/1/2009	10/1/2014	8/1/2010	8/1/2015	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1518842	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518842	AMARILLO SOUTH - RANDALL 230 KV CKT 1			6/1/2015	6/1/2015
	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1			6/1/2012	6/1/2012
	FLETCHER - HOLCOMB 115KV CKT 1			6/1/2015	6/1/2015
	FRIO-DRAW - POTTER 345 KV			6/1/2015	6/1/2015
	HITCHLAND INTERCHANGE 230/115KV TRANSFORMER CKT 1			8/1/2010	6/1/2011
	HOLCOMB - PLYMELL 115KV CKT 1			8/1/2010	10/31/2010
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 MIDW			6/1/2015	6/1/2015
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 WERE			6/1/2015	6/1/2015
	HUNTSVILLE - ST JOHN 115KV CKT 1			6/1/2015	6/1/2015
	JOHNSON CORNER - PIONEER 115 KV CKT 1			6/1/2015	6/1/2015
	JOHNSON CORNER 115 KV CAP			6/1/2015	6/1/2015
	JOHNSON CORNER 115 KV CAP #2			6/1/2015	6/1/2015
	PIONEER TAP - PLYMELL 115KV CKT 1			8/1/2010	10/31/2010
	PRATT - ST JOHN 115 KV CKT 1			6/1/2011	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518842	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1			6/1/2015	6/1/2015

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518842	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1			6/1/2014	6/1/2014
	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			6/1/2015	6/1/2015
	FLATRDG3 138.00 - HARPER 138KV CKT 1			6/1/2015	6/1/2015
	JEWELL - SMITH CENTER 115KV CKT 1			6/1/2015	6/1/2015
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Accelerated			6/1/2013	6/1/2013
	POST ROCK - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	POST ROCK - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	POST ROCK 345/230 KV TRANSFORMER			8/1/2010	6/1/2013
	SEWARD - ST JOHN 115KV CKT 1			8/1/2010	6/1/2011
	SPEARVILLE - POST ROCK 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - POST ROCK 345 KV CKT 1 SUNC			8/1/2010	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518842	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			12/1/2009	6/1/2013
	MEDICINE LODGE - PRATT 115KV CKT 1			12/1/2009	6/1/2013
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Displacement			12/1/2009	6/1/2013
	NORTHWEST - WOODWARD 345KV CKT 1			1/1/2010	1/1/2010

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

Customer Study Number  
KMEA AG3-2008-039

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KMEA	1518845	NPPD	SECI	1	10/1/2009	10/1/2014	8/1/2010	8/1/2015	\$ -	\$ 266.102	\$ -	\$ -
									\$ -	\$ 266.102	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1518845	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518845	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1			6/1/2012	6/1/2011
	FLETCHER - HOLCOMB 115KV CKT 1			6/1/2015	6/1/2015
	FRIO-DRAW - POTTER 345 KV			6/1/2015	6/1/2015
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 MIDW			6/1/2015	6/1/2013
	HUNTSVILLE - HUTCHINSON ENERGY CENTER 115KV CKT 1 WERE			6/1/2015	6/1/2013
	HUNTSVILLE - ST JOHN 115KV CKT 1			6/1/2015	6/1/2014
	JOHNSON CORNER - PIONEER 115 KV CKT 1			6/1/2015	5/31/2010
	JOHNSON CORNER 115 KV CAP			6/1/2015	8/31/2011
	JOHNSON CORNER 115 KV CAP #2			6/1/2015	8/31/2012
	PRATT - ST JOHN 115 KV CKT 1			6/1/2011	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518845	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1			6/1/2015	6/1/2015
	HEIZER - MULLERGREIN 115 KV CKT 1 MIDW			8/1/2010	6/1/2011
	HEIZER - MULLERGREIN 115 KV CKT 1 MKEC			8/1/2010	6/1/2011
	OGALLALA 230/115KV TRANSFORMER CKT 2			8/1/2010	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518845	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			6/1/2015	6/1/2013
	FLATRDG3 138.00 - HARPER 138KV CKT 1			6/1/2015	6/1/2013
	JEWELL - SMITH CENTER 115KV CKT 1			6/1/2015	6/1/2015
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Accelerated			6/1/2013	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	SPEARVILLE - WOLF 345 KV CKT 1 SUNC			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 MIDW			8/1/2010	6/1/2013
	WOLF - AXTELL 345 KV CKT 1 NPPD			8/1/2010	6/1/2013
	WOLF 345/230 KV TRANSFORMER			8/1/2010	6/1/2013

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1518845	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1			12/1/2009	6/1/2013
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Displacement			12/1/2009	6/1/2013
	NORTHWEST - WOODWARD 345KV CKT 1			1/1/2010	1/1/2010

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

**Customer** NTEC  
**Study Number** AG1-2009-029

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
NTEC	1567817	CSWS	CSWS	335	1/1/2015	1/1/2040			\$ 215,963	\$ -	\$ 215,963	\$ 1,096,963
									\$ 215,963	\$ -	\$ 215,963	\$ 1,096,963

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1567817	RIVERSIDE STATION - TULSA POWER STATION 138KV CKT 1	6/1/2012	6/1/2012			\$ 215,963	\$ 800,000	\$ 1,096,963
					Total	\$ 215,963	\$ 800,000	\$ 1,096,963

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1567817	BIG SANDY - PERDUE 69KV CKT 1	6/1/2015	6/1/2015		
	FRIO-DRAW - POTTER 345 KV	6/1/2015	6/1/2015		
	GEORGIA-PACIFIC - KEATCHIE REC 138KV CKT 1	6/1/2018	6/1/2018		
	MINEOLA - NORTH MINEOLA 69KV CKT 1	6/1/2017	6/1/2017		
	POTTER - ANADARKO 345 KV	6/1/2017	6/1/2017		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1567817	BIG SANDY - HAWKINS 69KV CKT 1	6/1/2015	6/1/2015		
	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 SWPA	6/1/2015	6/1/2015		
	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1	6/1/2015	6/1/2015		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1567817	BANN - RED SPRINGS REC 138KV CKT 1	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345 KV WFEC	7/1/2012	7/1/2012		
	HUGO POWER PLANT 345/138KV TRANSFORMER CKT 1	7/1/2012	7/1/2012		

Third Party Limitations.

Reservation	Upgrade Name	DUN	EOC	Earliest Service Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost
1567817	RUSSELLVILLE EAST - RUSSELLVILLE NORTH 161KV CKT 1	6/1/2015				\$ -	\$ -
					Total	\$ -	\$ -

\*An affected system study will need to be performed



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

Customer Study Number  
 OMPA AG1-2009-023

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
OMPA	1566503	OKGE	SPA	61	6/1/2010	6/1/2015	6/1/2011	6/1/2016	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1566503	None					\$ -	\$ -	\$ -
					Total	\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1566503	AMARILLO SOUTH - RANDALL 230 KV CKT 1	6/1/2015	6/1/2015		
	FRIO-DRAW - POTTER 345 KV	6/1/2015	6/1/2015		
	HITCHLAND INTERCHANGE 230/115KV TRANSFORMER CKT 1	8/1/2010	6/1/2011		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1566503	BROOKLINE - SUMMIT 345 kv CKT 1	6/1/2012	6/1/2014		
	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1	6/1/2015	6/1/2015		
	STILWELL - WEST GARDNER 345KV CKT 1	6/1/2012	6/1/2012		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1566503	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1	12/1/2010	6/1/2011		
	HAMMETT TAP - HAMMETT2 138KV CKT 1 WFEC	8/1/2010	6/1/2011		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1566503	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1	12/1/2009	6/1/2013		
	FT SUPPLY 138/69KV TRANSFORMER CKT 1	12/1/2006	6/1/2008		
	KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1	6/1/2006	6/1/2008		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		
	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Displacement	12/1/2009	6/1/2013		
	NORTHWEST - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	SUB 110 - ORONOGO JCT - SUB 167 - RIVERTON 161KV CKT 1	6/1/2011	6/1/2011		
	WOODWARD - IODINE 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 2	1/1/2010	1/1/2010		
	WOODWARD 345/138KV TRANSFORMER CKT 1	1/1/2010	1/1/2010		

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

**Customer Study Number**  
 SPRM AG1-2009-020

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
SPRM	1562368	WR	SPA	25	1/1/2010	1/1/2029	6/1/2014	6/1/2033	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
1562368	NASHUA - SMITHVILLE 161KV CKT 1	8/1/2010	10/1/2010			\$ -	\$ -	\$ -	\$ -	\$ -
	PLATTE CITY - SMITHVILLE 161KV CKT 1	8/1/2010	10/1/2010			\$ -	\$ -	\$ -	\$ -	\$ -
					Total	\$ -	\$ -	\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1562368	AMARILLO SOUTH - RANDALL 230 KV CKT 1	6/1/2015	6/1/2015		
	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 2	6/1/2015	6/1/2015	6/1/2013	
	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1	6/1/2012	6/1/2012	6/1/2011	
	FRIO-DRAW - POTTER 345 KV	6/1/2015	6/1/2015		
	G06-21T - HARPER 138KV CKT 1	6/1/2014	6/1/2014	6/1/2013	
	G06-21T - MEDICINE LODGE 138KV CKT 1	6/1/2014	6/1/2014	6/1/2013	
	HEC - HUNTSVILLE 115KV CKT 1 WIERE	6/1/2014	6/1/2014	6/1/2013	
	HEC - HUNTSVILLE 115KV CKT 1 MKEC	6/1/2014	6/1/2014	6/1/2013	
	HITCHLAND INTERCHANGE 230/115KV TRANSFORMER CKT 1	6/1/2010	6/1/2011		Yes
	HUNTSVILLE - ST. JOHN 115KV CKT 1	6/1/2014	6/1/2014		
	JAMES RIVER - TWIN OAKS 69KV CKT 1	6/1/2019	6/1/2019		
	MEDICINE LODGE - PRATT 115KV CKT 1	6/1/2014	6/1/2014	6/1/2013	
	MEDICINE LODGE (MED-LDG4) 138/115/13.8KV TRANSFORMER CKT 1	6/1/2014	6/1/2014	6/1/2009	
	POTTER - ANADARKO 345 KV	6/1/2017	6/1/2017		
	PRATT - ST. JOHN 115KV CKT 1	6/1/2014	6/1/2014	6/1/2009	

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1562368	BROOKLINE - SUMMIT 345 kV CKT 1	6/1/2012	6/1/2014		Yes
	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1	6/1/2015	6/1/2015		
	SPRINGFIELD (SPF X1) 161/69/13.8KV TRANSFORMER CKT 1	6/1/2019	6/1/2019		
	STILWELL - WEST GARDNER 345KV CKT 1	6/1/2012	6/1/2012		
	SUB 124 - AURORA H.T. - SUB 383 - MONETT 161KV CKT 1	6/1/2015	6/1/2015		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Service Date	Redispatch Available
1562368	KCI - Platte City 161KV Ckt 1	8/1/2010	6/1/2011		
	SEWARD - ST JOHN 115KV CKT 1	8/1/2010	6/1/2011		

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

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)	Estimated Engineering & Construction Cost
AEPW	RIVERSIDE STATION - TULSA POWER STATION 138KV CKT 1	Install 2% Reactor at Tulsa Power Station	6/1/2012	6/1/2012	\$ 800,000
AEPW	SOUTHWEST SHREVEPORT - SPRINGRIDGE PAN-HARR REC 138KV CKT 1	Rebuild 7.11 miles of 397.5 ACSR with 1272 ACSR	6/1/2012	6/1/2013	\$ 7,200,000
AEPW	TEXAS EASTMAN - WHITNEY 138KV CKT 1 Accelerated	Rebuild 2.49 miles with 1590 ACSR. Replace wavetraps & jumpers @ Whitney. Replace metering CT @ Texas Eastman	6/1/2012	6/1/2013	\$ 250,917
MIPU	NASHUA - SMITHVILLE 161KV CKT 1	Interim Redispach	8/1/2010	10/1/2010	\$ -
MIPU	PLATTE CITY - SMITHVILLE 161KV CKT 1	Interim Redispach	8/1/2010	10/1/2010	\$ -
SPS	CHERRY6 230.00 - Harrington Station East Bus 230KV CKT 1	Replace wavetraps	6/1/2011	6/1/2013	\$ 500,000
WFEC	ALTUS SW - NAVAJO 69KV CKT 1	Upgrade Terminal Equipment at Altus SW, 300-600A, new rating conductor 53/65MVA	8/1/2010	6/1/2013	\$ 150,000
WFEC	G03-05T 138.00 - PARADISE 138KV CKT 1	Replace CT	6/1/2015	6/1/2015	\$ 150,000

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

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
AEPW	BARTLESVILLE SOUTHEAST - NORTH BARTLESVILLE 138KV CKT 1	Rebuild 8.37 miles of 795 ACSR with 1590 ACSR & reset relays @ BSE	12/1/2010	6/1/2011
AEPW	BROKEN ARROW NORTH - SOUTH TAP - ONETA 138KV CKT 1	Rebuild 4.33 of 795 ACSR with 1590 ACSR	6/1/2015	6/1/2015
KACP	KCI - Platte City 161KV Ckt 1	Replace 800 amp wavetraps at KCI with a 1200 amp wavetraps putting limit to conductor rating	8/1/2010	6/1/2011
MIDW	POST ROCK - AXTELL 345 KV CKT 1 MIDW	Build new 345 kV line from Knoll to interception point of Axtell to Knoll line.	8/1/2010	6/1/2013
MIDW	POST ROCK 345/230 KV TRANSFORMER	Build new Post Rock substation and install new 345/230 kV transformer, tapping the Post Rock - South Hays 230 kV line	8/1/2010	6/1/2013
MIDW	SPEARVILLE - POST ROCK 345 KV CKT 1 MIDW	Build new 345 kV line from Knoll to interception point of Spearville to Knoll line.	8/1/2010	6/1/2013
MIDW	SPEARVILLE - WOLF 345 KV CKT 1 MIDW	Build new 345 kV line from Knoll to interception point of Spearville to Knoll line.	8/1/2010	6/1/2013
MIDW	WOLF - AXTELL 345 KV CKT 1 MIDW	Build new 345 kV line from Knoll to interception point of Axtell to Knoll line.	8/1/2010	6/1/2013
MIDW	WOLF 345/230 KV TRANSFORMER	Build new Wolf substation and install new 345/230 kV transformer, tapping the Wolf - South Hays 230 kV line	8/1/2010	6/1/2013
MKEC	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1	Rebuild 8.05 mile line	6/1/2015	6/1/2015
MKEC	FLATRDG3 138.00 - HARPER 138KV CKT 1	Rebuild 24.15 mile line	6/1/2015	6/1/2015
MKEC	JEWELL - SMITH CENTER 115KV CKT 1	Replace CTs and relays at Jewell substation and Smith Center substation	6/1/2015	6/1/2015
MKEC	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Accelerated	Upgrade transformer	6/1/2013	6/1/2013
MKEC	SEWARD - ST JOHN 115KV CKT 1	Replace CTs and relays at Seward substation and St John substation	8/1/2010	6/1/2011
NPPD	POST ROCK - AXTELL 345 KV CKT 1 NPPD	Build new 345 kV line from Axtell to interception point of Axtell to Post Rock line (Kansas Border). Includes substation expansion at Axtell and line reactor.	8/1/2010	6/1/2013
NPPD	WOLF - AXTELL 345 KV CKT 1 NPPD	Build new 345 kV line from Axtell to interception point of Axtell to Wolf line (Kansas Border). Includes substation expansion at Axtell and line reactor.	8/1/2010	6/1/2013
OKGE	ARCADIA - REDBUD 345KV CKT 3	Add eight mile 3rd 345 kV line from Redbud to Arcadia	6/1/2019	6/1/2019
OKGE	ARCADIA (ARCADIA2) 345/138/13.8KV TRANSFORMER CKT 1	Add 3rd 345/138KV Auto and convert the 345KV and 138KV to a breaker and a half configuration.	6/1/2012	6/1/2013
OKGE	BRYANT - MEMORIAL 138KV CKT 1	Change out wavetraps to 2000A	6/1/2012	6/1/2019
SPS	NORTHWEST INTERCHANGE - SUNSET SUB 115KV CKT 1	Replace Terminal Equipment	6/1/2017	6/1/2017
SUNC	SPEARVILLE - POST ROCK 345 KV CKT 1 SUNC	Build new 345 kV line from Spearville to interception point of Spearville to Knoll line.	8/1/2010	6/1/2013
SUNC	SPEARVILLE - WOLF 345 KV CKT 1 SUNC	Build new 345 kV line from Spearville to interception point of Spearville to Knoll line.	8/1/2010	6/1/2013
WERE	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1	Rebuild existing line to 345 kV operated as 230 kV, bundled 1530	6/1/2014	6/1/2014
WERE	GILL ENERGY CENTER EAST - MACARTHUR 69KV CKT 1 Accelerated	Rebuild 5.56-mile line, 954 ACSR	6/1/2013	6/1/2013
WERE	ROSE HILL (ROSEHL1X) 345/138/13.8KV TRANSFORMER CKT 3 Expedite	Add third 345-138 kV transformer at Rose Hill	8/1/2010	6/1/2012
WFEC	HAMMETT TAP - HAMMETT2 138KV CKT 1 WFEC	Upgrade line to 795	8/1/2010	6/1/2011

**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 Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
AEPW	BIG SANDY - PERDUE 69KV CKT 1	Rebuild 5.4 miles of 477 ACSR with 1272 ACSR.	6/1/2015	6/1/2015
AEPW	GEORGIA-PACIFIC - KEATCHIE REC 138KV CKT 1	Rebuild 12.63 miles of 795 ACSR with 1272 ACSR	6/1/2018	6/1/2018
AEPW	MINEOLA - NORTH MINEOLA 69KV CKT 1	Replace North Mineola Switches & Breaker. Rebuild 2.68 miles of 477 ACSR with 1272 ACSR.	6/1/2017	6/1/2017
AEPW	PRYOR JUNCTION (PRY-JCT1) 115/69/13.8KV TRANSFORMER CKT 1	Replace (3) 600 A switches with 1200 A switches replace	6/1/2011	6/1/2012
EMDE	Multi - Stateline - Joplin - Reinmiller conversion	Tear down the Riverton to Joplin 59 69 kv line, rebuilding the line to 161 kv from Stateline to outside Joplin 59 sub. Tear down and rebuild Joplin 59 to Gateway to Pillsbury to Reinmiller, converting those 69 kv lines to 161 kv. Tap the 161 kv line betwe	6/1/2018	6/1/2018
GRDA	AFTON (AFTAUTO1) 161/69/13.8KV TRANSFORMER CKT 1	Add a second 50 MVA Transformer at Afton Substation.	8/1/2010	6/1/2011
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.	6/1/2015	6/1/2015
MIDW	HUNTSVILLE - ST JOHN 115KV CKT 1	Rebuild 26.55 mile Huntsville - St. John 115 kv line and replace CT, wavetrap, breakers, and relays.	6/1/2015	6/1/2015
MIPU	South Harper 161 kv cut-in to Stilwell-Archie JCT 161 kv line	To tap Stilwell-Archie JCT 161 kv line into South Harper 161 kv sub and make it two new 161 kv sections: Stilwell-South Harper and Archie JCT- South Harper .	8/1/2010	6/1/2011
MKEC	CLEARWATER - MILAN TAP 138KV CKT 1 MKEC	Rebuild MKEC portion of the Clearwater-Milan tap 115 kv	6/1/2019	6/1/2019
MKEC	G06-21T - HARPER 138KV CKT 1	Rebuild 24.15 mile line	6/1/2014	6/1/2014
MKEC	G06-21T - MEDICINE LODGE 138KV CKT 1	Rebuild 8.05 mile line	6/1/2014	6/1/2014
MKEC	HARPER - MILAN TAP 138KV CKT 1	Replace Wave Trap at Harper Substation	6/1/2019	6/1/2019
MKEC	HEC - HUNTSVILLE 115KV CKT 1 MKEC	Rebuild 21.1 mile HEC - Huntsville 115 kv line and replace CT, wavetrap and relays.	6/1/2014	6/1/2014
MKEC	HUNTSVILLE - ST. JOHN 115KV CKT 1	Rebuild 26.55 mile Huntsville - St. John 115 kv line and replace CT, wavetrap, breakers, and relays.	6/1/2014	6/1/2014
MKEC	MEDICINE LODGE - PRATT 115KV CKT 1	Rebuild 26 mile line	6/1/2014	6/1/2014
MKEC	MEDICINE LODGE (MED-LDG4) 138/115/13.8KV TRANSFORMER CKT 1	Upgrade transformer	6/1/2014	6/1/2014
MKEC	PRATT - ST JOHN 115 KV CKT 1	Rebuild 21.9 mile St. John - Pratt 115 kv line with 795 ACSR conductor	6/1/2011	6/1/2013
MKEC	PRATT - ST. JOHN 115KV CKT 1	Rebuild 21.9 mile St. John - Pratt 115 kv line with 795 ACSR conductor.	6/1/2014	6/1/2014
NPPD	BEATRICE - HARBINE 115KV CKT 1	Reconductor 10 miles and upgrade terminal equipment to effect higher rating	6/1/2019	6/1/2019
SPRM	JAMES RIVER - TWIN OAKS 69KV CKT 1	Reconductor 69kv line from 636 ACSR to 762.8 ACSS/TW	6/1/2019	6/1/2019
SPS	AMARILLO SOUTH - RANDALL 230 KV CKT 1	Build new 20 mile Randall Co - Amarillo South 230 kv line.	6/1/2015	6/1/2015
SPS	BOWERS INTERCHANGE 115/69KV TRANSFORMER CKT 2	Add second BOWERS INTERCHANGE 115/69KV TRANSFORMER	6/1/2018	6/1/2018
SPS	CHERRY SUB 230/115 KV TRANSFORMER CKT 1	Tap Harrington - Potter 230 kv and step down to 115 at Cherry Sub.	6/1/2017	6/1/2017
SPS	FRIO-DRAW - POTTER 345 KV	Build new 345 kv line from Potter to new Frio-Draw substation at Roosevelt. Build 345/230 kv and 230/115 kv transformers at Frio-Draw substation. Build new line Roosevelt N - Frio-Draw - Oasis 230 kv.	6/1/2015	6/1/2015
SPS	HASTINGS 115 KV CONVERSION	Convert Hastings Sub to 115 kv. Build Bush - Hastings - East Plant 397 ACSR.	6/1/2012	6/1/2012
SPS	HITCHLAND INTERCHANGE 230/115KV TRANSFORMER CKT 1	Build Hitchland - Moore 230kv and Hitchland Pringle 230kv	8/1/2010	6/1/2011
SPS	JONES - TUCO 345KV CKT 1	add new 345 kv line Tuco - Jones Ckt 1 29.66 miles	6/1/2018	6/1/2018
SPS	POTTER - ANADARKO 345 KV	Build new 345 kv line from Potter to Midpoint Bus (Stateline) to Anadarko.	6/1/2017	6/1/2017
SPS	RANDALL 230/115 KV TRANSFORMER CKT 2	add new 230/115 kv transformer at Randall	6/1/2012	6/1/2013
SUNC	FLETCHER - HOLCOMB 115KV CKT 1	Rebuild 11.1 miles of the 18.3 mile Fletcher - Holcomb 115 kv line with 954 ACSR Cardinal	6/1/2015	6/1/2015
SUNC	HOLCOMB - PLYMELL 115KV CKT 1	Rebuild Holcomb to Plymell	8/1/2010	10/31/2010
SUNC	JOHNSON CORNER - PIONEER 115 KV CKT 1	Convert 69 kv line from Pioneer to Johnson Corner to 115 kv	6/1/2015	6/1/2015
SUNC	JOHNSON CORNER 115 KV CAP	Install 115 kv 12 MVAR Cap at Johnson Corner Substation	6/1/2015	6/1/2015
SUNC	JOHNSON CORNER 115 KV CAP #2	Install 2nd 115 kv 12 MVAR Cap Bat at Johnson Corner Substation	6/1/2015	6/1/2015
SUNC	PIONEER TAP - PLYMELL 115KV CKT 1	Rebuild Plymell to Pioneer Tap	8/1/2010	10/31/2010
WERE	AUBURN ROAD (AUBRN7X) 230/115/13.8KV TRANSFORMER CKT 2	Add second transformer	6/1/2015	6/1/2015
WERE	CLEARWATER - GILL ENERGY CENTER WEST 138KV CKT 1	Tear down and rebuild 7.88 mile Gill-Clearwater	6/1/2012	6/1/2012
WERE	CLEARWATER - MILAN TAP 138KV CKT 1 WERE	Rebuild Westar portion of the Clearwater-Milan tap 115 kv	6/1/2019	6/1/2019
WERE	EAST MANHATTAN - MCDOWELL 115kv to 230 kv conversion	Tap the Concordia - East Manhattan 230kv line and add a new substation "NW Manhattan"; Add a 230kv/115kv transformer and tap the KSU - Wildcat 115kv line into NW Manhattan	8/1/2010	6/1/2012
WERE	GILL ENERGY CENTER EAST - INTERSTATE 138KV CKT 1	Replace wavetraps on Gill - Interstate 138 kv line for a new rating of 232/256 MVA.	6/1/2015	6/1/2015
WERE	HEC - HUNTSVILLE 115KV CKT 1 WERE	Rebuild the Westar portion of the 28.8 mile HEC - Huntsville 115 kv line and reset CTs at HEC.	6/1/2014	6/1/2014
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.	6/1/2015	6/1/2015
WFEC	SNYDER - TIPTON JCT 69KV CKT 1	Upgrade Snyder 69 kv CTs from 400 A to 600 A	8/1/2010	6/1/2011

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

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

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
AEPW	BIG SANDY - HAWKINS 69KV CKT 1	Rebuild 5.5 miles of 477 ACSR with 1272 ACSR.	6/1/2015	6/1/2015
EMDE	SUB 124 - AURORA H.T. - SUB 383 - MONETT 161KV CKT 1	CHANGE CT ratio at breaker 383	6/1/2015	6/1/2015
KACP	STILWELL - WEST GARDNER 345KV CKT 1	Must upgrade Stilwell terminal equipment to 2000 amps	6/1/2012	6/1/2012
MIDW	HEIZER - MULLERGREEN 115 KV CKT 1 MIDW	Install 115 kV bay at Heizer and update relaying equipment	8/1/2010	6/1/2011
MKEC	HEIZER - MULLERGREEN 115 KV CKT 1 MKEC	Construct approximately one mile of 115-kV transmission line from the Great Bend (Mullergreen) generation station to Heizer Substation with 795 ACSR conductor	8/1/2010	6/1/2011
NPPD	CANADAY - LEXINGTON 115KV CKT 1	Increase clearances to 100 Deg C and upgrade terminal equipment (PCB, DISC, WVTRP, CT, BUS) to effect higher rating.	12/1/2010	6/1/2013
NPPD	OGALLALA 230/115KV TRANSFORMER CKT 2	Install a second 230/115 KV transformer at Ogallala	8/1/2010	6/1/2013
SPRM	BROOKLINE - SUMMIT 345 kV CKT 1	Build a 345 kV line from Brookline to Summit substation and install a 345/161 kV autotransformer at Summit	6/1/2012	6/1/2014
SFS	FARMERS ELECTRIC REC-CLOVIS - FRIODRW1 115.00 115KV CKT 1	Reconductor line	6/1/2015	6/1/2015
SWPA	DARDANELLE - RUSSELLVILLE SOUTH 161KV CKT 1 SWPA	Replace wave trap, disconnect switches, and breaker. Bus will limit rating to 1560 amps.	6/1/2015	6/1/2015
SWPA	SPRINGFIELD (SPF X1) 161/69/13.8KV TRANSFORMER CKT 1	Replace Springfield auto #1 with larger xtr.	6/1/2019	6/1/2019

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

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
AEPW	BANN - RED SPRINGS REC 138KV CKT 1	Replace 138 kV breakers 3300 & 3310	7/1/2012	7/1/2012
AEPW	HUGO POWER PLANT - VALLIANT 345 KV AEPW	Valliant 345 KV line terminal	7/1/2012	7/1/2012
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
KACP	LACYGNE - WEST GARDNER 345KV CKT 1	KCPL Sponsored Project to Reconductor Line to be In-Service by 6/1/2006	6/1/2006	6/1/2006
MKEC	CLIFTON - GREENLEAF 115KV CKT 1	Rebuild 14.4 miles	6/1/2011	6/1/2013
MKEC	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1	Rebuild 8.05 mile line	12/1/2009	6/1/2013
MKEC	FLATRDG3 138.00 - HARPER 138KV CKT 1	Rebuild 24.15 mile line	12/1/2009	6/1/2013
MKEC	MEDICINE LODGE - PRATT 115KV CKT 1	Rebuild 26 mile line	12/1/2009	6/1/2013
MKEC	MEDICINE LODGE 138/115KV TRANSFORMER CKT 1 Displacement	Upgrade transformer	12/1/2009	6/1/2013
OKGE	KNOBHILL (KNOBHIL4) 138/69/13.2KV TRANSFORMER CKT 1	Replace bus tie with 100MVA transformer	6/1/2006	6/1/2008
OKGE	NORTHWEST - WOODWARD 345KV CKT 1	Build 120 miles of 345 kV	1/1/2010	1/1/2010
OKGE	WOODWARD - IODINE 138KV CKT 1	Tap Iodine to Woodward 138 kV line	1/1/2010	1/1/2010
OKGE	WOODWARD - WOODWARD EHV 138KV CKT 1	Build .5 miles of 138 kV and install terminal equipment	1/1/2010	1/1/2010
OKGE	WOODWARD - WOODWARD EHV 138KV CKT 2	Build .5 miles of 138 kV and install terminal equipment	1/1/2010	1/1/2010
OKGE	WOODWARD 345/138KV TRANSFORMER CKT 1	Install 345/138 kV XF	1/1/2010	1/1/2010
WFEC	FT SUPPLY 138/69KV TRANSFORMER CKT 1	Install 2nd 70 MVA auto at Ft Supply	12/1/2006	6/1/2008
WFEC	HUGO POWER PLANT - VALLIANT 345 KV WFEC	New 19 miles 345 KV	7/1/2012	7/1/2012
WFEC	HUGO POWER PLANT 345/138KV TRANSFORMER CKT 1	New 345/138 kV Auto	7/1/2012	7/1/2012

**Table 5 - Third Party Facility Constraints**

Transmission Owner	UpgradeName	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)	Estimated Engineering & Construction Cost
EES	RUSSELLVILLE EAST - RUSSELLVILLE NORTH 161KV CKT 1	Indeterminate	6/1/2015	6/1/2015	Indeterminate