



# Aggregate Facility Study SPP-2011-AG3-AFS-11

12/18/2013

SPP Engineering, SPP Transmission Service Studies



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## Executive Summary

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Pursuant to Attachment Z1 of the Southwest Power Pool, Inc. (SPP) Open Access Transmission Tariff (OATT), 745 MW of long-term transmission service requests have been studied in this Aggregate Facility Study (AFS). The principal objective of the AFS is to identify system problems and potential modifications necessary to facilitate these transfers while maintaining or improving system reliability, as well as summarizing the operating limits and determination of the financial characteristics associated with facility upgrades. A highly tangible benefit of studying transmission requests aggregately under the SPP OATT Attachment Z1 is the sharing of costs among Transmission Customers using the same facility. Facility upgrade costs are allocated on a prorated basis to all requests positively impacting any individual overloaded facility.

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

- The AFS determined that the total assigned facility upgrade Engineering and Construction (E&C) cost is \$22 million. Additionally, no third party facility upgrades are assignable to the customer.
- Total upgrade levelized revenue requirements for all transmission requests after consideration of potential base plan funding is \$0.

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

According to the provisions of the SPP Tariff, this study is now concluded with SPP’s study posting on December 18, 2013. SPP will notify the Customer via email regarding the next steps required in order to confirm service. If the Customer does not intend to confirm service, SPP must receive notice from the Customer via email within five (5) business days or by December 26, 2013. Service Agreements for each request for service will be tendered identifying the terms and conditions of the confirmed service.

All allocated revenue requirements for facility upgrades are assigned to the Customer in the AFS data tables. Potential base plan funding allowable is contingent upon validation of designated resources meeting Attachment J, Section III B criteria.

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## Introduction

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

- In 2005, the Federal Energy Regulatory Commission (FERC) accepted SPP's proposed Aggregate Transmission Study procedures in Docket ER05-109.
- In 2008, in Docket ER08-1379-000 SPP filed with FERC to pair open seasons closing during January 2010 with an effective date of August 9, 2008.
- In January 2010, in Docket ER10-659-000 SPP filed with FERC to extend its current practice of pairing open seasons through January 31, 2011, with an effective date of January 28, 2010.
- In March 2010, in Docket ER10-659-000 FERC issued a letter order accepting SPP's proposal to continue to pair open seasons through January 31, 2011, effective January 28, 2010.
- All requests for long-term transmission service with a signed study agreement received before October 1, 2011 for 2011-AG3 have been included in this third Aggregate Transmission Service Study (ATSS) of 2011.

The results of the AFS are detailed in Tables 1 through 6. Detailed results depict individual upgrade costs by study and potential base plan allowances determined by Attachments J and Z1. The [OATT](#) may be accessed at SPP's website by going to [SPP.org>Org Groups>Governing Documents](#).

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

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

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

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

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

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

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

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

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

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

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

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

By taking the transmission service subject to interim redispatch, the Transmission Customer agrees to provide interim redispatch. Once the Transmission Provider identifies the possible redispatch pairs, the Transmission Customer can enter into bilateral agreements to provide redispatch. Should

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

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## Financial Analysis

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

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

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

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

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

A 40-year service life assumption is utilized for Base Plan funded projects, unless another assumption is provided by the Transmission Owner. A present worth analysis of revenue requirements on a common year basis between the Base Plan and Requested Upgrades was performed to determine avoided Base Plan revenue requirements due to the displacement or deferral of the Base Plan Upgrade by the Requested Upgrade. The difference in present worth between the Base Plan and Requested Upgrades is assigned to the transmission requests impacting this upgrade based on the displacement or deferral.

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## **Third-Party Facilities**

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

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

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

## Make-Whole Payment

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Make-whole payment (MWP) is a potential cost that may be allocated to a Withdrawn Request inside an Aggregate Facilities Study (AFS). The MWP for the Withdrawn Request(s) is determined as the sum of the increase in Directly Assigned Upgrade Costs (DAUC) for the remaining requests in the AFS. If a MWP is required, the customer(s) with the Withdrawn Request(s) shall be obligated to pay such costs pursuant to the ACA.

If multiple requests are withdrawn at the conclusion of this study iteration, then the impact of each Withdrawn Request on the shared upgrades causing an increase in DAUC for the remaining requests in the AFS with shared costs shall be determined. Upgrade costs for facilities allocated solely to the Withdrawn Request(s) will not be included in the MWP calculation. If a MWP is required for a Withdrawn Request, the customer shall enter into a Sponsored Upgrade Agreement with SPP in accordance with Attachment J and will be eligible for revenue credits in accordance with Attachment Z2. For additional details, refer to the Tariff language.

The MWP has not been calculated in this report posting. However, one can be assessed by the following:

1. Refer to Table 3 of the relevant AFS and identify the Service Upgrades allocated to the request.
2. For Service Upgrades where “Allocated E&C Cost” is less than the “Total E&C Cost,” sum the “Total Revenue Requirements.”
3. The sum calculated in (2) is the maximum potential MWP.

In most cases, the MWP will not include costs of non-shared upgrades. Non-shared upgrade costs may be included in the event that SPP grants service in a subsequent study that required the use of the non-shared upgrade.

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## Study Methodology

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### **Description**

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

Normal operating ratings and emergency operating ratings monitored are Rate A and B in the SPP Model Development Working Group (MDWG) models, respectively. The upper bound and lower



bound of the normal voltage range monitored is 105% and 95%. The upper bound and lower bound of the emergency voltage range monitored is 105% and 90%. Transmission Owner voltage monitoring criteria is used if more restrictive. The SPS Tuco 230 kV bus voltage is monitored at 92.5% due to pre-determined system stability limitations. The WERE Wolf Creek 345 kV bus voltage is monitored at 103.5% and 98.5% due to transmission operating procedure.

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

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

## **Model Development**

SPP used seven seasonal models to study the aggregate transfers over a variety of requested service periods. The following SPP Transmission Expansion Plan 2012 Build 1 Cases were used to study the impact of the requested service on the transmission system:

- 2013/14 Winter Peak (13WP)
- 2014 Summer Peak (14SP)
- 2014/15 Winter Peak (14WP)
- 2018 Summer Peak (18SP)
- 2018/19 Winter Peak (18WP)
- 2023 Summer Peak (23SP)
- 2023/24 Winter Peak (23SP)

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

The chosen base case models were modified to reflect the current modeling information. One group of requests was developed from the aggregate to model the requested service. From the seasonal models, two system scenarios were developed. Scenario 0 includes projected usage of transmission included in the SPP 2012 Series Cases. Scenario 5 includes transmission service not already included in the SPP 2012 Series Cases.

## **Transmission Request Modeling**

Network Integration Transmission Service requests are modeled as Generation to Load transfers in addition to Generation to Generation transfers. Network Integration Transmission Service requests are modeled as Generation to Load transfers in addition to Generation to Generation because the requested Network Integration Transmission Service is a request to serve network load with the new designated network resource, and the impacts on Transmission System are determined accordingly.

Point-To-Point Transmission Service requests are modeled as Generation to Generation transfers. Generation to Generation transfers are accomplished by developing a post-transfer case for comparison by dispatching the request source and redispatching the request sink.

## **Transfer Analysis**

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

## **Curtailed and Redispatch Evaluation**

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

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

Generation shift factors were calculated for the potential incremental and decremental units using Managing and Utilizing System Transmission (MUST). Relief pairs from the generation shift factors for the incremental and decremental units with a greater than 3% TDF on the limiting constraint were determined from the incremental units with the lowest generation shift factors and decremental units with highest generation shift factors. If the aggregate redispatch amount for the potential relief pair was determined to be three times greater than the lower of the increment or decrement, then the pair was determined not to be feasible and is not included. Transmission Customers can request SPP to provide additional relief pairs beyond those determined. The potential relief pairs were not evaluated to determine impacts on limiting facilities in the SPP and first tier systems. The SPP Reliability Coordinator would call upon the redispatch requirements before implementing NERC TLR Level 5a.

The Aggregate Study analyzes the most probable contingencies and does not account for every situation that may be encountered in real-time operation. Because of this, it is possible that the

customer may be curtailed under certain system conditions to allow system operators to maintain the reliability of the transmission network.

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## Study Results

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### **Study Analysis Results**

Tables 1 through 6 contain the AFS steady-state analysis results. Table 1 identifies the participating long-term Transmission Service requests included in the AFS. This table lists deferred start and stop dates both with and without redispatch (based on Customer selection of redispatch if available) and the minimum annual allocated ATC without upgrades and season of first impact.

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

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

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

Table 5 lists identified third-party constrained facilities.

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

Table 7 (if applicable) identifies deferred expansion plan projects that were replaced with requested upgrades at earlier dates.

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

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

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

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

**Example A:**

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

**Example B:**

E&C allocated for upgrades is \$74 million with revenue requirements of \$140 million and PTP base rate of \$101 million. Potential base plan funding is \$10 million with the difference of \$64 million E&C assignable to the Customer. If the revenue requirements for this assignable portion is \$128 million and the PTP base rate is \$101 million, the Customer will pay the higher amount of \$128 million revenue requirements to be paid back to the Transmission Owners, and the remaining revenue requirements of \$12 million (\$140 million less \$128 million) will be paid by base plan funding.

### **Example C:**

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

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

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

### **Study Definitions**

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

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## **Conclusion**

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

According to the provisions of the SPP Tariff, this study is now concluded with SPP's study posting on December 18, 2013. SPP will notify the Customer via email regarding the next steps required in order to confirm service. If the Customer does not intend to confirm service, SPP must receive

notice from the Customer via email within five (5) business days or by December 26, 2013. Service Agreements for each request for service will be tendered identifying the terms and conditions of the confirmed service.

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

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## Appendix A

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

#### BASE CASE SETTINGS:

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

#### ACCC CASE SETTINGS:

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

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

Customer	Study Number	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date without interim redispatch (ACA Parameter 3)	Deferred Stop Date without interim redispatch	Start Date with interim redispatch	Stop Date with interim redispatch	Minimum Allocated ATC (MW) within reservation period	Season of Minimum Allocated ATC within reservation period
AEPM	AG3-2011-088	76213445	WR	CSWS	31	12/1/2012	12/1/2032	2/1/2014	2/1/2034	2/1/2014	2/1/2034	0	14SP
GSECGS	AG3-2011-031	76214890	OKGE	SPS	101	8/1/2012	1/1/2033	6/1/2017	11/1/2037	2/1/2014	7/1/2034	0	14WP
GSECGS	AG3-2011-032	76214894	SPS	SPS	175	12/1/2012	1/1/2043	6/1/2015	7/1/2045	2/1/2014	3/1/2044	0	14SP
KCPS	AG3-2011-026	76216053	SECI	KCPL	32	4/1/2012	4/1/2032	6/1/2015	6/1/2035	2/1/2014	2/1/2034	0	13WP
KCPS	AG3-2011-027	76216066	WPEK	KCPL	50	4/1/2012	4/1/2032	6/1/2015	6/1/2035	2/1/2014	2/1/2034	0	13WP
NMEC	AG3-2011-003	75350825	NPPD	WR	1	10/1/2014	10/1/2024	10/1/2014	10/1/2024	10/1/2014	10/1/2024	0	14WP
OMPA	AG3-2011-093	76216657	OKGE	OKGE	51	1/1/2013	1/1/2038	6/1/2015	6/1/2040	2/1/2014	2/1/2039	0	23SP
SECI	AG3-2011-089	76177839	SECI	SECI	24	7/1/2012	7/1/2032	6/1/2018	6/1/2038	2/1/2014	2/1/2034	0	13WP
SECI	AG3-2011-091	76192531	SECI	SECI	55	1/1/2014	1/1/2044	6/1/2016	6/1/2046	2/1/2014	2/1/2044	0	14SP
SPSM	AG3-2011-041	76213597	SPS	SPS	100	6/1/2013	6/1/2014	2/1/2014	6/1/2014	Note 4	Note 4	100	13SP
SPSM	AG3-2011-042	76213598	SPS	SPS	25	6/1/2014	6/1/2015	6/1/2014	6/1/2015	Note 4	Note 4	0	14SP
UCU	AG3-2011-022	76216331	WPEK	MPS	100	4/1/2012	4/1/2032	6/1/2018	6/1/2038	2/1/2014	2/1/2034	0	13WP
					<b>745</b>								
<b>Note 1:</b> 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.													
<b>Note 2:</b> 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.													
<b>Note 3:</b> Request is unable to be deferred due to fixed stop dates.													
<b>Note 4:</b> Transmission customer did not select "remain in the study using interim redispatch" option.													



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

Customer	Study Number	Reservation	Engineering and Construction Cost of Upgrades Allocated to Customer for Revenue Requirements	<sup>1</sup> Letter of Credit Amount Required (ACA Parameter 5)	<sup>2</sup> Potential Base Plan Engineering and Construction Funding Allowable	Notes	<sup>4</sup> Additional Engineering and Construction Cost for 3rd Party Upgrades (ACA Parameter 2)	<sup>3</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	Directly Assigned Upgrade Cost (DAUC) (ACA Parameter 1)
AEPM	AG3-2011-088	76213445	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
GSECGS	AG3-2011-031	76214890	\$ 3,076,866	\$ -	\$ 3,076,866		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
GSECGS	AG3-2011-032	76214894	\$ 18,954,173	\$ -	\$ 18,954,173		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
KCPS	AG3-2011-026	76216053	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
KCPS	AG3-2011-027	76216066	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
NMEC	AG3-2011-003	75350825	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
OMPA	AG3-2011-093	76216657	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
SECI	AG3-2011-089	76177839	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
SECI	AG3-2011-091	76192531	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
SPSM	AG3-2011-041	76213597	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
SPSM	AG3-2011-042	76213598	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
UCU	AG3-2011-022	76216331	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	Schedule 9 & 11 Charges	\$ -
<b>Grand Total</b>			\$ <b>22,031,039</b>		\$ <b>22,031,039</b>			\$ -			

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

<p><b>Note 1:</b> 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 &amp; 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.</p>
<p><b>Note 2:</b> 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.</p>
<p><b>Note 3:</b> 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.</p>
<p><b>Note 4:</b> 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 &amp; 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.</p>
<p><b>Note 5:</b> 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.</p>

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

Customer Study Number  
 AEPM AG3-2011-088

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	76213445	WR	CSWS	31	12/1/2012	12/1/2032	2/1/2014	2/1/2034	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76213445	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 Start Date	Redispatch Available
76213445	IATAN - NASHUA 345KV CKT 1	2/1/2014	6/1/2015		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76213445	BANN - RED SPRINGS REC 138KV CKT 1	7/1/2012	7/1/2012		
	BEELINE - EXPLORER GLENPOOL TAP 138KV CKT 1	6/1/2009	6/1/2009		
	CIMARRON - DRAPER LAKE 345KV CKT 1	10/1/2014	6/1/2016		
	EXPLORER GLENPOOL TAP - RIVERSIDE STATION 138KV CKT 1 AEPW	6/1/2009	6/1/2009		
	EXPLORER GLENPOOL TAP - RIVERSIDE STATION 138KV CKT 1 OKGE	6/1/2009	6/1/2009		
	HUGO POWER PLANT - VALLIANT 345 KV AEPW	7/1/2012	7/1/2012		
	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	7/1/2012	7/1/2012		
	MCNAB REC - TURK 115KV CKT 1	7/1/2012	7/1/2012		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		

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

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

Customer Study Number  
GSECGS AG3-2011-031

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
GSECGS	76214890	OKGE	SPS	101	8/1/2012	1/1/2033	6/1/2017	11/1/2037	\$ 3,076,866	\$ -	\$ 3,076,866	\$ 7,792,175
									\$ 3,076,866	\$ -	\$ 3,076,866	\$ 7,792,175

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Base Plan Funding for Wind	Directly Assigned for Wind	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76214890	CANYON EAST SUB - CANYON WEST SUB 115KV CKT 1	2/1/2014	6/1/2017		Yes	\$ 3,076,866	\$ -	\$ 3,076,866	\$ 3,076,866	\$ 7,792,175
					Total	\$ 3,076,866	\$ -	\$ 3,076,866	\$ 3,076,866	\$ 7,792,175

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 Start Date	Redispatch Available
76214890	BAILEY COUNTY INTERCHANGE - CURRY COUNTY INTERCHANGE 115KV CKT 1	6/1/2014	6/1/2015		Yes
	DEAF SMITH COUNTY INTERCHANGE (I) 230/115/13.8KV TRANSFORMER CKT 1	6/1/2014	3/1/2015		Yes
	DEAF SMITH COUNTY INTERCHANGE (I) 230/115/13.8KV TRANSFORMER CKT 2	6/1/2014	3/1/2015		Yes
	Grapevine 230/115kV Transformer Ckt 1	6/1/2015	6/1/2015		
	Line - Clark County - Thistle 345 kV dbI Ckt	2/1/2014	1/1/2015		Yes
	Line - Hitchland - Woodward 345 kV dbI Ckt OKGE	2/1/2014	7/1/2014		Yes
	Line - Hitchland - Woodward 345 kV dbI Ckt SPS	2/1/2014	7/1/2014		Yes
	Line - Spearville - Clark County 345 kV dbI Ckt	2/1/2014	1/1/2015		Yes
	Line - Thistle - Wichita 345 kV dbI Ckt PW	2/1/2014	1/1/2015		Yes
	Line - Thistle - Wichita 345 kV dbI Ckt WERE	2/1/2014	1/1/2015		Yes
	Line - Thistle - Woodward 345 kV dbI Ckt OKGE	2/1/2014	1/1/2015		Yes
	Line - Thistle - Woodward 345 kV dbI Ckt PW	2/1/2014	1/1/2015		Yes
	Line - Tuco - Woodward 345 kV line OKGE	2/1/2014	6/1/2014		Yes
	Line - Tuco - Woodward 345 kV line SPS	2/1/2014	6/1/2014		Yes
	NEWHART INTERCHANGE PROJECT	6/1/2014	4/30/2015		Yes
	XFR - Thistle 345/138 kV	2/1/2014	1/1/2015		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 Start Date	Redispatch Available
76214890	BUSHLAND INTERCHANGE - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1	2/1/2014	6/1/2016		Yes
	CANYON EAST SUB - RANDALL COUNTY INTERCHANGE 115KV CKT 1	2/1/2014	6/1/2017		Yes
	Hitchland 230/115/13.2 kV Transformer Ckt 2	6/1/2019	6/1/2019		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76214890	Jones Station Bus#2 - Lubbock South Interchange 230 kV CKT 2 terminal upgrade	6/1/2014	12/30/2014		Yes

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76214890	CIMARRON - DRAPER LAKE 345KV CKT 1	10/1/2014	6/1/2016		
	GRACMNT4 138.00 - WASHITA 138KV CKT 2 OKGE	1/1/2012	1/1/2012		
	GRACMNT4 138.00 - WASHITA 138KV CKT 2 WFEC	1/1/2012	1/1/2012		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - IODINE 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD 345/138KV TRANSFORMER CKT 1	1/1/2010	1/1/2010		

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

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

Customer Study Number  
 GSECGS AG3-2011-032

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
GSECGS	76214894	SPS	SPS	175	12/1/2012	1/1/2043	6/1/2015	7/1/2045	\$ 18,954,173	\$ -	\$ 18,954,173	\$ 64,172,557
									\$ 18,954,173	\$ -	\$ 18,954,173	\$ 64,172,557

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76214894	Mustang to Shell CO2 115 kV	6/1/2015	6/1/2017			\$ 15,196,916	\$ 15,196,916	\$ 52,426,778
	YOAKUM COUNTY INTERCHANGE () 230/115/13.2KV TRANSFORMER CKT 1	6/1/2019	6/1/2019			\$ 3,757,257	\$ 3,757,257	\$ 11,745,780
	<b>Total</b>					\$ 18,954,173	\$ 18,954,173	\$ 64,172,557

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 Start Date	Redispatch Available
76214894	BAILEY COUNTY INTERCHANGE - CURRY COUNTY INTERCHANGE 115KV CKT 1	6/1/2014	6/1/2015		Yes
	DEAF SMITH COUNTY INTERCHANGE () 230/115/13.8KV TRANSFORMER CKT 1	6/1/2014	3/1/2015		Yes
	DEAF SMITH COUNTY INTERCHANGE () 230/115/13.8KV TRANSFORMER CKT 2	6/1/2014	3/1/2015		Yes
	NEWHART INTERCHANGE PROJECT	6/1/2014	4/30/2015		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 Start Date	Redispatch Available
76214894	Hitchland 230/115/13.2 kV Transformer Ckt 2	6/1/2019	6/1/2019		
	YOAKUM COUNTY INTERCHANGE () 230/115/13.2KV TRANSFORMER CKT 2	6/1/2019	6/1/2019		

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

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

Customer Study Number  
 KCPS AG3-2011-026

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
KCPS	76216053	SECI	KCPL	32	4/1/2012	4/1/2032	6/1/2015	6/1/2035	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76216053	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 Start Date	Redispatch Available
76216053	TATAN - NASHUA 345KV CKT 1	2/1/2014	6/1/2015		Yes
	Line - Clark County - Thistle 345 kv dbl Ckt	2/1/2014	1/1/2015		Yes
	Line - Hitchland - Woodward 345 kv dbl Ckt OKGE	2/1/2014	7/1/2014		Yes
	Line - Hitchland - Woodward 345 kv dbl Ckt SPS	2/1/2014	7/1/2014		Yes
	Line - Spearville - Clark County 345 kv dbl Ckt	2/1/2014	1/1/2015		Yes
	Line - Thistle - Wichita 345 kv dbl Ckt PW	2/1/2014	1/1/2015		Yes
	Line - Thistle - Wichita 345 kv dbl Ckt WERE	2/1/2014	1/1/2015		Yes
	Line - Thistle - Woodward 345 kv dbl Ckt OKGE	2/1/2014	1/1/2015		Yes
	Line - Thistle - Woodward 345 kv dbl Ckt PW	2/1/2014	1/1/2015		Yes
	Line - Tuco - Woodward 345 kv line OKGE	2/1/2014	6/1/2014		Yes
	Line - Tuco - Woodward 345 kv line SPS	2/1/2014	6/1/2014		Yes
	MOUNDRIDGE 138/115KV TRANSFORMER CKT 2	2/1/2014	12/1/2014		Yes
	XFR - Thistle 345/138 kv	2/1/2014	1/1/2015		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 Start Date	Redispatch Available
76216053	BUSHLAND INTERCHANGE - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1	2/1/2014	6/1/2016		

Planned Projects

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76216053	GOODYEAR JUNCTION - MCVICAR3 115kv	6/1/2014	6/1/2014		
	MCVICAR3 - 17TH & FAIRLAWN 115kv	6/1/2014	12/1/2014		Yes

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76216053	BARBER - MEDICINE LODGE 115KV CKT 1	12/1/2009	6/1/2013		
	BARBER (BARBER 4) 138/115/2.72KV TRANSFORMER CKT 1	12/1/2009	6/1/2013		
	CIMARRON - DRAPER LAKE 345KV CKT 1	10/1/2014	6/1/2016		
	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		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD - WOODWARD EHV 138KV CKT 1	1/1/2010	1/1/2010		
	WOODWARD 345/138KV TRANSFORMER CKT 1	1/1/2010	1/1/2010		

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

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

Customer Study Number  
 KCPS AG3-2011-027

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
KCPS	76216066	WPEK	KCPL	50	4/1/2012	4/1/2032	6/1/2015	6/1/2035	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76216066	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 Start Date	Redispatch Available
76216066	TATAN - NASHUA 345KV CKT 1	2/1/2014	6/1/2015		Yes
	Line - Clark County - Thistle 345 kv dbl Ckt	2/1/2014	1/1/2015		Yes
	Line - Hitchland - Woodward 345 kv dbl Ckt OKGE	2/1/2014	7/1/2014		Yes
	Line - Hitchland - Woodward 345 kv dbl Ckt SPS	2/1/2014	7/1/2014		Yes
	Line - Spearville - Clark County 345 kv dbl Ckt	2/1/2014	1/1/2015		Yes
	Line - Thistle - Wichita 345 kv dbl Ckt PW	2/1/2014	1/1/2015		Yes
	Line - Thistle - Wichita 345 kv dbl Ckt WERE	2/1/2014	1/1/2015		Yes
	Line - Thistle - Woodward 345 kv dbl Ckt OKGE	2/1/2014	1/1/2015		Yes
	Line - Thistle - Woodward 345 kv dbl Ckt PW	2/1/2014	1/1/2015		Yes
	Line - Tuco - Woodward 345 kv line OKGE	2/1/2014	6/1/2014		Yes
	Line - Tuco - Woodward 345 kv line SPS	2/1/2014	6/1/2014		Yes
	MOUNDRIDGE 138/115KV TRANSFORMER CKT 2	2/1/2014	12/1/2014		Yes
	XFR - Thistle 345/138 kv	2/1/2014	1/1/2015		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 Start Date	Redispatch Available
76216066	BUSHLAND INTERCHANGE - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1	2/1/2014	6/1/2016		

Planned Projects

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76216066	GOODYEAR JUNCTION - MCVICAR3 115kv	6/1/2014	6/1/2014		
	MCVICAR3 - 17TH & FAIRLAWN 115kv	6/1/2014	12/1/2014		Yes

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76216066	BARBER - MEDICINE LODGE 115KV CKT 1	12/1/2009	6/1/2013		
	BARBER (BARBER 4) 138/115/2.72KV TRANSFORMER CKT 1	12/1/2009	6/1/2013		
	CIMARRON - DRAPER LAKE 345KV CKT 1	10/1/2014	6/1/2016		
	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		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		

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

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

Customer Study Number  
NMEC AG3-2011-003

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
NMEC	75350825	NPPD	WR	1	10/1/2014	10/1/2024			\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
75350825	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
75350825	GREENLEAF - KNOB HILL 115KV CKT 1 WERE	10/1/2014	6/1/2015		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
75350825	ALBION - PETERSBURG 115KV CKT 1	1/1/2013	1/1/2013		
	CIRCLE - RICE_CO 230KV CKT 1	10/1/2012	11/15/2012		
	CLIFTON - GREENLEAF 115KV CKT 1	6/1/2011	6/1/2013		
	GREENLEAF - KNOB HILL 115KV CKT 1 MKEC	6/1/2013	6/1/2013		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		
	LYONS - RICE_CO 115KV CKT 1	10/1/2012	4/1/2013		
	LYONS - WHEATLAND 115KV CKT 1 #1	10/1/2012	7/15/2013		
	LYONS - WHEATLAND 115KV CKT 1 #2	10/1/2012	7/15/2013		
	NELIGH - PETERSBURG 115KV CKT 1	1/1/2013	1/1/2013		
	RICE_CO 230/115KV TRANSFORMER CKT 1	10/1/2012	11/15/2012		

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



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

Customer Study Number  
 OMPA AG3-2011-093

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	76216657	OKGE	OKGE	51	1/1/2013	1/1/2038	6/1/2015	6/1/2040	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76216657	None					\$ -	\$ -	\$ -
Total						\$ -	\$ -	\$ -

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76216657	DIVISION AVE - LAKESIDE 138KV CKT 1	6/1/2019	6/1/2019		

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76216657	NORTHWEST 345/138/13.8KV TRANSFORMER CKT 3 Accelerated	2/1/2014	6/1/2015		Yes

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76216657	CIMARRON - DRAPER LAKE 345KV CKT 1	10/1/2014	6/1/2016		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		

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

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

Customer Study Number  
SECI AG3-2011-089

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
SECI	76177839	SECI	SECI	24	7/1/2012	7/1/2032	6/1/2018	6/1/2038	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76177839	None					\$ -	\$ -	\$ -
<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 Start Date	Redispatch Available
76177839	HAYS PLANT - SOUTH HAYS 115KV CKT 1 #2	6/1/2014	6/1/2015		Yes
	Line - Clark County - Thistle 345 kv dbl Ckt	2/1/2014	1/1/2015		Yes
	Line - Hitchland - Woodward 345 kv dbl Ckt OKGE	2/1/2014	7/1/2014		Yes
	Line - Hitchland - Woodward 345 kv dbl Ckt SPS	2/1/2014	7/1/2014		Yes
	Line - Spearville - Clark County 345 kv dbl Ckt	2/1/2014	1/1/2015		Yes
	Line - Thistle - Wichita 345 kv dbl Ckt PW	2/1/2014	1/1/2015		Yes
	Line - Thistle - Wichita 345 kv dbl Ckt WERE	2/1/2014	1/1/2015		Yes
	Line - Thistle - Woodward 345 kv dbl Ckt OKGE	2/1/2014	1/1/2015		Yes
	Line - Thistle - Woodward 345 kv dbl Ckt PW	2/1/2014	1/1/2015		Yes
	Line - Tuco - Woodward 345 kv line OKGE	2/1/2014	6/1/2014		Yes
	Line - Tuco - Woodward 345 kv line SPS	2/1/2014	6/1/2014		Yes
	XFR - Thistle 345/138 kv	2/1/2014	1/1/2015		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 Start Date	Redispatch Available
76177839	CIMARRON RIVER TAP - KISMET 3 115.00 115KV CKT 1	6/1/2014	6/1/2018		Yes
	CUDAHY - KISMET 3 115.00 115KV CKT 1	6/1/2014	6/1/2018		Yes
	HAYS PLANT - VINE STREET 115KV CKT 1 #1	2/1/2014	6/1/2015		Yes

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76177839	Lancer - North Judson Large 115KV CKT 1	6/1/2014	6/1/2016		Yes
	Lancer - Spearville 345KV CKT 1	6/1/2014	6/1/2016		Yes
	Lancer 345/115/13.8KV Transformer CKT 1	2/1/2014	6/1/2016		Yes

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76177839	ALEXANDER - PRATT 115KV CKT 1	12/1/2009	6/1/2013		
	BARBER - MEDICINE LODGE 115KV CKT 1	12/1/2009	6/1/2013		
	BARBER - SAWYER 115KV CKT 1	12/1/2009	6/1/2013		
	BARBER (BARBER 4) 138/115/2.72KV TRANSFORMER CKT 1	12/1/2009	6/1/2013		
	CLIFTON - GREENLEAF 115KV CKT 1	6/1/2011	6/1/2013		
	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1	12/1/2009	6/1/2013		
	FLATRDG3 138.00 - HARPER 138KV CKT 1	12/1/2009	6/1/2013		
	GREENLEAF - KNOB HILL 115KV CKT 1 MKEC	6/1/2013	6/1/2013		
	Lancer - North Judson Large 115KV CKT 1	10/1/2013	6/1/2016		
	Lancer - Spearville 345KV CKT 1	10/1/2013	6/1/2016		
	Lancer 345/115/13.8KV Transformer CKT 1	10/1/2013	6/1/2016		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		

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

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

Customer Study Number  
SECI AG3-2011-091

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
SECI	76192531	SECI	SECI	55	1/1/2014	1/1/2044	6/1/2016	6/1/2046	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76192531	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 Start Date	Redispatch Available
76192531	HAYS PLANT - SOUTH HAYS 115KV CKT 1 #2			6/1/2014	6/1/2015
	Line - Clark County - Thistle 345 kv dbi Ckt			2/1/2014	1/1/2015
	Line - Hitchland - Woodward 345 kv dbi Ckt OKGE			2/1/2014	7/1/2014
	Line - Hitchland - Woodward 345 kv dbi Ckt SPS			2/1/2014	7/1/2014
	Line - Spearville - Clark County 345 kv dbi Ckt			2/1/2014	1/1/2015
	Line - Thistle - Wichita 345 kv dbi Ckt PW			2/1/2014	1/1/2015
	Line - Thistle - Wichita 345 kv dbi Ckt WERE			2/1/2014	1/1/2015
	Line - Thistle - Woodward 345 kv dbi Ckt OKGE			2/1/2014	1/1/2015
	Line - Thistle - Woodward 345 kv dbi Ckt PW			2/1/2014	1/1/2015
	Line - Tuco - Woodward 345 kv line OKGE			2/1/2014	6/1/2014
	Line - Tuco - Woodward 345 kv line SPS			2/1/2014	6/1/2014
	XFR - Thistle 345/138 kv			2/1/2014	1/1/2015

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76192531	CIMARRON RIVER TAP - KISMET 3 115.00 115KV CKT 1			6/1/2014	6/1/2018
	CUDAHY - KISMET 3 115.00 115KV CKT 1			6/1/2014	6/1/2018
	HAYS PLANT - VINE STREET 115KV CKT 1 #1			2/1/2014	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 Start Date	Redispatch Available
76192531	Lancer - North Judson Large 115KV CKT 1			6/1/2014	6/1/2016
	Lancer - Spearville 345KV CKT 1			6/1/2014	6/1/2016
	Lancer 345/115/13.8KV Transformer CKT 1			2/1/2014	6/1/2016

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76192531	CLIFTON - GREENLEAF 115KV CKT 1			6/1/2011	6/1/2013
	GREENLEAF - KNOB HILL 115KV CKT 1 MKEC			6/1/2013	6/1/2013
	Lancer - North Judson Large 115KV CKT 1			10/1/2013	6/1/2016
	Lancer - Spearville 345KV CKT 1			10/1/2013	6/1/2016
	Lancer 345/115/13.8KV Transformer CKT 1			10/1/2013	6/1/2016
	NORTHWEST - TATONGA 345KV CKT 1			1/1/2010	1/1/2010
	TATONGA - WOODWARD 345KV CKT 1			1/1/2010	1/1/2010

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

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

Customer      Study Number  
 SPSM          AG3-2011-041

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
SPSM	76213597	SPS	SPS	100	6/1/2013	6/1/2014	2/1/2014	6/1/2014	\$ -	\$ -	-	
									\$ -	\$ -	-	

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76213597	None							
					Total			

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

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

Customer Study Number  
SPSM AG3-2011-042

Customer	Reservation	POR	POD	Requested Amount	Requested Start Date	Requested Stop Date	Deferred Start Date Without Redispatch	Deferred Stop Date Without Redispatch	Potential Base Plan Funding Allowable	Point-to-Point Base Rate	Allocated E & C Cost	Total Revenue Requirements
SPSM	76213598	SPS	SPS	25	6/1/2014	6/1/2015			\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76213598	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 Start Date	Redispatch Available
76213598	BAILEY COUNTY INTERCHANGE - CURRY COUNTY INTERCHANGE 115KV CKT 1	6/1/2014	6/1/2015		
	NEWHART INTERCHANGE PROJECT	6/1/2014	4/30/2015		

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

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

Customer Study Number  
UCU AG3-2011-022

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
UCU	76216331	WPEK	MPS	100	4/1/2012	4/1/2032	6/1/2018	6/1/2038	\$ -	\$ -	\$ -	\$ -
									\$ -	\$ -	\$ -	\$ -

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available	Allocated E & C Cost	Total E & C Cost	Total Revenue Requirements
76216331	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 Start Date	Redispatch Available
76216331	IATAN - NASHUA 345KV CKT 1	2/1/2014	6/1/2015	Yes	
	Line - Clark County - Thistle 345 kv dbl Ckt	2/1/2014	1/1/2015	Yes	
	Line - Hitchland - Woodward 345 kv dbl Ckt OKGE	2/1/2014	7/1/2014	Yes	
	Line - Hitchland - Woodward 345 kv dbl Ckt SPS	2/1/2014	7/1/2014	Yes	
	Line - Spearville - Clark County 345 kv dbl Ckt	2/1/2014	1/1/2015	Yes	
	Line - Thistle - Wichita 345 kv dbl Ckt PW	2/1/2014	1/1/2015	Yes	
	Line - Thistle - Wichita 345 kv dbl Ckt WERE	2/1/2014	1/1/2015	Yes	
	Line - Thistle - Woodward 345 kv dbl Ckt OKGE	2/1/2014	1/1/2015	Yes	
	Line - Thistle - Woodward 345 kv dbl Ckt PW	2/1/2014	1/1/2015	Yes	
	Line - Tuco - Woodward 345 kv line OKGE	2/1/2014	6/1/2014	Yes	
	Line - Tuco - Woodward 345 kv line SPS	2/1/2014	6/1/2014	Yes	
	MOUNDRIDGE 138/115KV TRANSFORMER CKT 2	2/1/2014	12/1/2014	Yes	
	XFR - Thistle 345/138 kv	2/1/2014	1/1/2015	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 Start Date	Redispatch Available
76216331	BUSHLAND INTERCHANGE - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1	2/1/2014	6/1/2016	Yes	
	CIMARRON RIVER TAP - KISMET 3 115.00 115KV CKT 1	6/1/2014	6/1/2018	Yes	
	CUDAHY - KISMET 3 115.00 115KV CKT 1	6/1/2014	6/1/2018	Yes	

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76216331	BLUE SPRING SOUTH - BLUE SPRINGS EAST 161KV CKT 1 #1 Accelerate	6/1/2019	6/1/2019		
	Lancer - North Judson Large 115KV CKT 1	6/1/2014	6/1/2016	Yes	
	Lancer - Spearville 345KV CKT 1	6/1/2014	6/1/2016	Yes	
	Lancer 345/115/13.8KV Transformer CKT 1	2/1/2014	6/1/2016	Yes	

Planned Projects

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76216331	GOODYEAR JUNCTION - MCVICAR3 115kv	6/1/2014	6/1/2014		
	MCVICAR3 - 17TH & FAIRLAWN 115kv	6/1/2014	12/1/2014		Yes

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

Reservation	Upgrade Name	DUN	EOC	Earliest Start Date	Redispatch Available
76216331	ALEXANDER - PRATT 115KV CKT 1	12/1/2009	6/1/2013		
	BARBER - MEDICINE LODGE 115KV CKT 1	12/1/2009	6/1/2013		
	BARBER - SAWYER 115KV CKT 1	12/1/2009	6/1/2013		
	BARBER (BARBER 4) 138/115/2.72KV TRANSFORMER CKT 1	12/1/2009	6/1/2013		
	CIMARRON - DRAPER LAKE 345KV CKT 1	10/1/2014	6/1/2016		
	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		
	LACYGNE - WEST GARDNER 345KV CKT 1	6/1/2006	6/1/2006		
	Lancer - North Judson Large 115KV CKT 1	10/1/2013	6/1/2016		
	Lancer - Spearville 345KV CKT 1	10/1/2013	6/1/2016		
	Lancer 345/115/13.8KV Transformer CKT 1	10/1/2013	6/1/2016		
	NORTHWEST - TATONGA 345KV CKT 1	1/1/2010	1/1/2010		
	TATONGA - WOODWARD 345KV CKT 1	1/1/2010	1/1/2010		

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
SPS	CANYON EAST SUB - CANYON WEST SUB 115KV CKT 1	Rebuild 3.73 miles	2/1/2014	6/1/2017	\$3,076,866.00
SPS	Mustang to Shell CO2 115 kV	Build 6.3 mile 115 kV line from Mustang to Shell CO2 Build a new 6.9 mile 115kV line between the Mustang and Shell CO2 substations.	6/1/2015	6/1/2017	\$15,196,916.00
SPS	YOAKUM COUNTY INTERCHANGE () 230/115/13.2KV TRANSFORMER CKT 1	Upgrade transformer to 250 MVA.	6/1/2019	6/1/2019	\$3,757,257.00

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

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
MIPU	BLUE SPRING SOUTH - BLUE SPRINGS EAST 161KV CKT 1 #1 Accelerate	Upgrade wave trap.	6/1/2019	6/1/2019
MKEC	Lancer - North Judson Large 115KV CKT 1	Build approximately 20 mile 115 kV line	6/1/2014	6/1/2016
MKEC	Lancer - Spearville 345KV CKT 1	Build approximately 0.5 mile 345 kV line	6/1/2014	6/1/2016
MKEC	Lancer 345/115/13.8kV Transformer CKT 1	Build new Lancer Substation with 345/115 kV transformer	2/1/2014	6/1/2016
OKGE	NORTHWEST 345/138/13.8KV TRANSFORMER CKT 3 Accelerated	Install third 345/138 kV Bus Tie in Northwest Sub	2/1/2014	6/1/2015
SPS	Jones Station Bus#2 - Lubbock South Interchange 230 kV CKT 2 terminal upgrade	Upgrade line trap at both Jones Bus #2 and Lubbock South Interchange.	6/1/2014	12/30/2014

**Planned 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)
WERE	GOODYEAR JUNCTION - MCVICAR3 115kV	Build 3.25 miles of 115kV from Goodyear to MacVicar. 223 MVA Rate A. 245 MVA Rate B.	6/1/2014	6/1/2014
WERE	MCVICAR3 - 17TH & FAIRLAWN 115kV	Build 3.6 miles of 115kV from MacVicar to 17th & Fairlawn. 223 MVA Rate A. 245 MVA Rate B.	6/1/2014	12/1/2014

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)
ITCGP	Line - Clark County - Thistle 345 kv dbl Ckt	Build a new 86 mile double circuit 345 kv line with at least 3000 A capacity from the Thistle 345 kv substation to the new Clark County substation. Build a new 345 kv substation at Thistle with a ring bus and necessary terminal equipment.	2/1/2014	1/1/2015
ITCGP	Line - Spearville - Clark County 345 kv dbl Ckt	Build a new 36 mile double circuit 345 kv line with at least 3000 A capacity from the Spearville substation to the new Clark County substation. Build the Clark County 345 kv substation with a ring bus and necessary terminal equipment.	2/1/2014	1/1/2015
ITCGP	XFR - Thistle 345/138 kv	Install a 400 MVA 345/138 kv transformer at the new 345 kv Thistle substation.	2/1/2014	1/1/2015
KACP	IATAN - NASHUA 345KV CKT 1	Tap Nashua 345kv bus in Hawthorn - St. Joseph 345 kv line. Build new 345 kv line from Iatan to Nashua, Add Nashua 345/161 kv	2/1/2014	6/1/2015
MIDW	HAYS PLANT - SOUTH HAYS 115KV CKT 1 #2	Tear down and rebuild of existing South Hays - Hays Plant 115 kv line. Tentative plans include rebuilding on existing right-of-way with the possibility of re-routing a portion of the line to new right-of-way as necessary.	6/1/2014	6/1/2015
OKGE	Line - Hitchland - Woodward 345 kv dbl Ckt OKGE	Build a new 92 mile double circuit 345 kv line with at least 3000 A capacity from the Woodward District EHV substation to the SPS interception from the Hitchland substation. Upgrade the Woodward District EHV substation with the necessary breakers and term	2/1/2014	7/1/2014
OKGE	Line - Thistle - Woodward 345 kv dbl Ckt OKGE	Build a new 79 mile double circuit 345 kv line with at least 3000 A capacity from the Woodward District EHV substation to the Kansas/Oklahoma state border towards the Thistle substation. Upgrade the Woodward District EHV substation with the necessary breakers	2/1/2014	1/1/2015
OKGE	Line - Tuco - Woodward 345 kv line OKGE	Build new 345 kv line from Woodward EHV to Border - Project costs now include Border reactor substation	2/1/2014	6/1/2014
PW	Line - Thistle - Wichita 345 kv dbl Ckt PW	Build a new 78 mile double circuit 345 kv line with at least 3000 A capacity from the Wichita substation to the new Thistle 345 kv substation.	2/1/2014	1/1/2015
PW	Line - Thistle - Woodward 345 kv dbl Ckt PW	Build a new 30 mile double circuit 345 kv line with at least 3000 A capacity from the Thistle substation to the Kansas/Oklahoma state border towards the Woodward District EHV substation.	2/1/2014	1/1/2015
SPS	BAILEY COUNTY INTERCHANGE - CURRY COUNTY INTERCHANGE 115KV CKT 1	40 miles 115 kv between Bailey and Curry.	6/1/2014	6/1/2015
SPS	DEAF SMITH COUNTY INTERCHANGE ( ) 230/115/13.8KV TRANSFORMER CKT 1	Upgrade Deaf Smith Interchange 230/115 kv transformer ckt 1 to 250 MVA	6/1/2014	3/1/2015
SPS	DEAF SMITH COUNTY INTERCHANGE ( ) 230/115/13.8KV TRANSFORMER CKT 2	Upgrade Deaf Smith Interchange 230/115 kv transformer ckt 2 to 250 MVA	6/1/2014	3/1/2015
SPS	Grapevine 230/115kv Transformer Ckt 1	All elements and conductor must have at least an emergency rating of 250 MVA.	6/1/2015	6/1/2015
SPS	Line - Hitchland - Woodward 345 kv dbl Ckt SPS	Build 30 mile double circuit 345 kv line with at least 3000 A capacity from the Hitchland substation to the OGE interception point from the Woodward District EHV substation. Upgrade the Hitchland substation with the necessary breakers and terminal equipment	2/1/2014	7/1/2014
SPS	Line - Tuco - Woodward 345 kv line SPS	Build new 345 kv line from Tuco to OGE Border station near TX/OK Stateline. Install line reactor outside Border station and line reactors at Tuco.	2/1/2014	6/1/2014
SPS	NEWHART INTERCHANGE PROJECT	Tap the Potter Interchange - Plant X Station 230 kv line for new Newhart Substation and install 230/115 kv, 150/173 MVA transformer. New 15 mile Lampton Interchange - Hart Industrial Substation 115 kv line. New 19 mile Swisher County Interchange - Newhart	6/1/2014	4/30/2015



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

WERE	Line - Thistle - Wichita 345 kV dbl Ckt WERE	Upgrade the Wichita substation with the necessary breakers and terminal equipment to accommodate two new 345 kV circuits from the new Thistle 345 kV substation	2/1/2014	1/1/2015
WERE	MOUNDRIDGE 138/115KV TRANSFORMER CKT 2	Install second 138/115 kV transformer at Moundridge. Operate both 138/115 kV transformers normally closed.	2/1/2014	12/1/2014

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)
MIDW	HAYS PLANT - VINE STREET 115KV CKT 1 #1	Replace Wavetrap	2/1/2014	6/1/2015
MKEC	CIMARRON RIVER TAP - KISMET 3 115.00 115KV CKT 1	Rebuild 3.37 miles and Substation work	6/1/2014	6/1/2018
MKEC	CUDAHY - KISMET 3 115.00 115KV CKT 1	Rebuild 23.17 miles and increase terminal limits to at least 146MVA Summer Rate B.	6/1/2014	6/1/2018
OKGE	DIVISION AVE - LAKESIDE 138KV CKT 1	Rebuild 3.58 mile line with 1590ASS2 Conductor	6/1/2019	6/1/2019
SPS	BUSHLAND INTERCHANGE - DEAF SMITH COUNTY INTERCHANGE 230KV CKT 1	Upgrade 800A wave trap at both Bushland Interchange and Deaf Smith Interchange to at least 428 MVA Winter Rate B. Deaf Smith - Replace existing wave trap so that the limiting factor of K-11 terminal at Deaf Smith will be no less than 1200 A.	2/1/2014	6/1/2016
SPS	CANYON EAST SUB - RANDALL COUNTY INTERCHANGE 115KV CKT 1	Rebuild 18 miles to at least 107 MVA Summer Rate B and 127 MVA Winter Rate B.	2/1/2014	6/1/2017
SPS	Hitchland 230/115/13.2 kV Transformer Ckt 2	Build a second 230/115/13.2 kV transformer at Hitchland.	6/1/2019	6/1/2019
SPS	YOAKUM COUNTY INTERCHANGE ( ) 230/115/13.2KV TRANSFORMER CKT 2	Upgrade transformer to 250 MVA.	6/1/2019	6/1/2019

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

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

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
AEPW	BANN - RED SPRINGS REC 138KV CKT 1	Replace 138 kV breakers 3300 & 3310	7/1/2012	7/1/2012
AEPW	EXPLORER GLENPOOL TAP - RIVERSIDE STATION 138KV CKT 1 AEPW	Reconductor 1.82 miles with ACCC. Replace wave trap jumpers at Riverside.	6/1/2009	6/1/2009
AEPW	HUGO POWER PLANT - VALLIANT 345 KV AEPW	Valliant 345 kV line terminal	7/1/2012	7/1/2012
AEPW	MCNAB REC - TURK 115KV CKT 1	Build a new two mile, 138 kV, 1590 ACSR line section (operated at 115 kV) from Turk Substation to the existing Okay- Hope 115 kV line to form a Turk - Hope 115 kV line.	7/1/2012	7/1/2012
KACP	LACYGNE - WEST GARDNER 345KV CKT 1	KCP Sponsored Project to Reconductor Line to be In-Service by 6/1/2006	6/1/2006	6/1/2006
MIDW	CIRCLE - RICE_CO 230KV CKT 1	Convert from 115kV to 230kV operation	10/1/2012	11/15/2012
MIDW	LYONS - RICE_CO 115KV CKT 1	Rebuild 11.7 mile line	10/1/2012	4/1/2013
MIDW	RICE_CO 230/115KV TRANSFORMER CKT 1	Add 230/115kV Transformer	10/1/2012	11/15/2012
MKEC	ALEXANDER - PRATT 115KV CKT 1	Rebuild line	12/1/2009	6/1/2013
MKEC	BARBER - MEDICINE LODGE 115KV CKT 1	Rebuild line	12/1/2009	6/1/2013
MKEC	BARBER - SAWYER 115KV CKT 1	Rebuild line	12/1/2009	6/1/2013
MKEC	BARBER (BARBER 4) 138/115/2.72KV TRANSFORMER CKT 1	Upgrade transformer	12/1/2009	6/1/2013
MKEC	CLIFTON - GREENLEAF 115KV CKT 1	Rebuild 14.4 miles	6/1/2011	6/1/2013
MKEC	FLATRDG3 138.00 - MEDICINE LODGE 138KV CKT 1	Rebuild 8.05 mile line	12/1/2009	6/1/2013
MKEC	FLATRDG3 138.00 - HARPER 138KV CKT 1	Rebuild 24.15 mile line	12/1/2009	6/1/2013
MKEC	GREENLEAF - KNOB HILL 115KV CKT 1 MKEC	Rebuild 43.5% Ownership of 20.9 miles	6/1/2013	6/1/2013
MKEC	Lancer - North Judson Large 115KV CKT 1	Build approximately 20 mile 115 kV line	10/1/2013	6/1/2016
MKEC	Lancer - Spearville 345KV CKT 1	Build approximately 0.5 mile 345 kV line	10/1/2013	6/1/2016
MKEC	Lancer 345/115/13.8kV Transformer CKT 1	Build new Lancer Substation with 345/115 kV transformer	10/1/2013	6/1/2016
NPPD	ALBION - PETERSBURG 115KV CKT 1	Replace Breaker Switch 1106-D and jumpers at Albion. Replace main bus at Petersburg. Upgrade and replace transmission structures on 115 kV lineto facilitate 100 degrees Centigrade line operation.	1/1/2013	1/1/2013
NPPD	NELIGH - PETERSBURG 115KV CKT 1	Replace Breaker 1106, jumpers, and 115 kV Switch 1106-D2 at Neligh. Replace main bus at Petersburg. Upgrade and replace transmission structures on 115 kV lineto facilitate 100 degrees Centigrade line operation.	1/1/2013	1/1/2013
OKGE	BEELINE - EXPLORER GLENPOOL TAP 138KV CKT 1	Reconductor .92miles of line with Drake ACCC/TW.	6/1/2009	6/1/2009
OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap	10/1/2014	6/1/2016
OKGE	EXPLORER GLENPOOL TAP - RIVERSIDE STATION 138KV CKT 1 OKGE	Reconductor 1.82 miles line with Drake ACCC/TW.	6/1/2009	6/1/2009
OKGE	GRACMNT4 138.00 - WASHITA 138KV CKT 2 OKGE	Build 138KV Terminal.	1/1/2012	1/1/2012
OKGE	NORTHWEST - TATONGA 345KV CKT 1	Build 345 kV line	1/1/2010	1/1/2010
OKGE	TATONGA - WOODWARD 345KV CKT 1	Build 345 kV line	1/1/2010	1/1/2010
OKGE	WOODWARD - IODINE 138KV CKT 1	Tap Iodine to Woodward 138 kV line	1/1/2010	1/1/2010
OKGE	WOODWARD - WOODWARD EHV 138KV CKT 1	Build .5 miles of 138 kV and install terminal equipment	1/1/2010	1/1/2010
OKGE	WOODWARD 345/138KV TRANSFORMER CKT 1	Install 345/138 kV XF	1/1/2010	1/1/2010
WERE	LYONS - WHEATLAND 115KV CKT 1 #1	Replace CTs	10/1/2012	7/15/2013
WERE	LYONS - WHEATLAND 115KV CKT 1 #2	Rerate circuit to 1000 amps	10/1/2012	7/15/2013
WFEC	GRACMNT4 138.00 - WASHITA 138KV CKT 2 WFEC	Build approximately 6 miles of 138kV.	1/1/2012	1/1/2012
WFEC	HUGO POWER PLANT - VALLIANT 345KV CKT 1 WFEC	New 19 miles 345 kV	7/1/2012	7/1/2012

Table 5 - Third Party Facility Constraints

Transmission Owner	UpgradeName	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)	Estimated Engineering & Construction Cost
None					