



**SPP**

*Southwest  
Power Pool*

*System Facilities Study  
For Transmission Service Request  
212202*

*Requested By Tenaska As Agent For  
Power Resource Group, Inc.*

*From American Electric Power West  
To Entergy*

*For The Requested Amount Of 620MW*

*From June 1, 2003  
To June 1, 2013*

*SPP Coordinated Planning  
(#SPP-2002-127-1)  
Revised July 3, 2002*

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**Southwest Power Pool**  
**Transmission Service Request #212202**  
**SPP System Facilities Study SPP-2002-127-1**

**Executive Summary**

At the request of Tenaska as the agent for Power Resource Group, Inc. (PRG), the Southwest Power Pool developed this Facilities Study for the purpose of evaluating the financial characteristics of Transmission Service Request 212202. This request is for 620MW of Firm Point-To-Point Transmission Service from American Electric Power West (AEP) to Entergy (EES). The requested term of this Transmission Service is 10 years from June 1, 2003 to June 1, 2013.

The projected base rate transmission service charges (excluding charges for ancillary services) are \$51,336,000 during the reservation period based on 620MW of capacity starting June 1, 2003 at \$690/MW-Month. The available transfer capability (ATC) of the existing transmission system will be increased with the specified Network Upgrades such that 620MW may be accommodated without interruption after 2005. However, interruption of transmission service will be required on a pre-contingency basis until all required Network Upgrades through 2005 are placed in service. The Transmission Customer is required to pay the higher of either the base rate transmission service charges or the revenue requirements associated with the Network Upgrades. The estimated levelized revenue requirements for providing the necessary Network Upgrades to accommodate the Transmission Service request are \$110,834,760. As the estimated base rate transmission service charges are less than the estimated revenue requirements for Network Upgrades, Tenaska shall pay for the revenue requirements associated with the Network Upgrades.

There are additional costs associated with the necessary Network Upgrades. In order to install the proposed Linn County 345/161kV Substation, a reduction in generation at Wolf Creek is required. There are up-front expenses associated with 1) a reduction of generation at Wolf Creek by 250MW for 2 weeks, 2) a second contingency at Wolf Creek requiring unit shutdown during maintenance outage, and 3) possible NRC studies to interconnect with Wolf

Creek – LaCygne 345kV line. The Transmission Customer must make payment for these expenses when they are incurred. At this time, the estimated cost for a reduction of generation at Wolf Creek by 250MW for 2 weeks is \$2,000,000. Therefore, the current total estimated cost for Network Upgrades is \$112,834,760 plus expenses for 1) a second contingency at Wolf Creek requiring unit shutdown during maintenance outage, and 2) possible NRC studies to interconnect with Wolf Creek – LaCygne 345kV line.

The engineering and construction cost estimates for assignable Network Upgrades total \$74,230,826 excluding expedited upgrades. The engineering and construction cost estimates for expedited (non-assignable) Network Upgrades total \$6,141,000. Excluding the engineering and construction costs of upgrades being expedited and by accounting for interest and taxes over a 10-year term of Transmission Service, the average indirect cost multiplier is 1.4931 over the entire term. The basis for this average indirect cost multiplier does not include the additional costs associated with Wolf Creek. Interest and tax expenses associated with expedited Network Upgrades are assigned and included in the total estimated cost. The average rate for Transmission Service based on the total estimated cost of Network Upgrades, excluding the expenses at Wolf Creek, is \$1,490/MW-Month over the 10-year term. Including the \$2,000,000 expense at Wolf Creek, the average rate for Transmission Service is \$1,517/MW-Month.

Annual ATC allocated to the Transmission Customer is normally determined by the least amount of seasonal ATC on an annual basis. In this application, the revenue requirements associated with the required Network Upgrades are based on items received by September 1, 2002 including 1) an executed Service Agreement and letter of credit received by SPP, and 2) authorization to proceed with engineering and construction received by Transmission Owners from SPP. In the event that the Transmission Customer does not provide SPP with an executed Service Agreement and letter of credit by September 1, 2002, then the scheduling of Network Upgrades will have to be reevaluated due to subsequent delays in scheduling engineering and construction as existing facilities are not normally taken out of service during the summer peak season.

SPP as the Transmission Provider must receive an unconditional and irrevocable letter of credit for the engineering and construction cost associated with assigned Network Upgrades before the Transmission Owners incur initial engineering and construction costs. The amount of the letter of credit will be adjusted on an annual basis to reflect amortization of these costs. Also, this study provides no assurance of the availability of transmission capacity or the adequacy of existing or planned transmission facilities for Transmission Service in excess of the requested 620MW.

The Southwestern Power Administration (SPA) as a Transmission Owner requires that a Transmission Customer pre-pay for all assignable Network Upgrades which it designs and constructs. These pre-payments shall be based on SPA's estimated engineering and construction estimates. Pre-payments will be required no less than 8 months prior to the scheduled in-service date. However, applicable interest adjustments will be made to the monthly revenue requirements of the Transmission Customer due to this pre-payment requirement.

The Transmission Customer is responsible for the cost of upgrading all identified third-party facilities that are overloaded due to the requested service. In this case, third-party facilities were identified. Not all third-party facilities were monitored during the development of the corresponding Impact Study. Therefore, additional third-party facilities upgrades may be required to accommodate the requested Transmission Service.

## **Introduction**

The principal objective of this Facilities Study is to identify the costs of Network Upgrades that must be added or modified to provide the requested Transmission Service while maintaining a reliable transmission system. This study includes a good faith estimate of the Transmission Customer's assigned cost for the required Network Upgrades and the time required to complete such construction and to initiate the requested service. No Direct Assignment facilities are included in this study as none were identified to provide the requested Transmission Service.

Another objective is to estimate the levelized revenue requirement for all identified Network Upgrades by Transmission Owner. The levelized revenue requirement is based on cost components of each upgrade including depreciation, weighted cost of capital, composite income tax, other tax, and deferred income tax credit. This information will be used to allocate revenue to Transmission Owners even if it is not the basis for billing the Transmission Customer pursuant to “or” pricing.

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 ATC within each annual period will be offered to the Transmission Customer on an applicable annual basis within the reservation period.

The staff of SPP completed System Impact Study SPP-2002-127 and SPP-2000-108 that identified system limitations and required modifications to the SPP system necessary to provide the requested Transmission Service. The Network Upgrades that were not assigned to a previous request and are required to provide the requested Transmission Service are listed in Table 1. Network Upgrades will be required on the AEP, Empire District Electric (EDE), Grand River Dam Authority (GRDA), Kansas City Power & Light (KCPL), OG+E Electric Services (OKGE), Southwestern Power Administration (SPA), Western Farmers Electric Cooperative (WFEC) and Westar Energy (WR) transmission systems. Due to the in-service dates of these Network Upgrades, some may limit or delay the requested Transmission Service. All Network Upgrades assigned to previous Transmission Service requests that have not yet been constructed were monitored to determine whether the previously assigned upgrades are

adequate to support this additional request. To accommodate a new request for Transmission Service, a previously assigned Network Upgrade may require capacity in addition to that previously specified. A previously assigned Network Upgrade may be required to be in service at an earlier date than previously indicated to accommodate a new request. With regard to the capacity and in-service date of a previously assigned Network Upgrade, an upgrade may require both additional capacity and an earlier in-service date to accommodate this request for Transmission Service.

Network Upgrades that were previously assigned and will require only additional capacity to accommodate this request for Transmission Service are listed in Table 2. To accommodate this request, no previously assigned Network Upgrades will require capacity in addition to that previously specified. Due to the in-service dates of these Network Upgrades, some may limit and delay the requested Transmission Service.

Network Upgrades that were previously assigned and will require only accelerated in-service dates to accommodate this request for Transmission Service are listed in Table 3. To accommodate this request, 10 previously assigned Network Upgrades will require an earlier in-service date than previously indicated. These include Transmission Owner's projects. Due to the in-service dates of these Network Upgrades, some may limit and delay the requested Transmission Service.

Network Upgrades that were previously assigned and will require both additional capacity and accelerated in-service dates to accommodate this request for Transmission Service are listed in Table 4. To accommodate this request, no previously assigned Network Upgrades will require both capacity in addition to that previously specified and an earlier in-service date than previously indicated. Due to the in-service dates of these Network Upgrades, some may limit and delay the requested Transmission Service.

Some constraints identified in the Impact Study are not addressed in this Facilities Study as the Transmission Owners determined that upgrades are not required due to various reasons. AEP's International Paper – Wallace Lake 138kV line upgrade is not required given the application of the Dolet Hills Operating Guide. AEP's upgrade of the S. Shreveport – Wallace Lake 138kV line was removed due to the application of the Dolet Hills Operating Guide. OKGE will be

installing a 138/69kV transformer at NE Enid that eliminates an upgrade of the Chestnut - Enid 69kV line. WFEC Chikaskia Tap - Braman 69kV line upgrade is not required as the ratings were updated and increased in the load flow models. WR will use its Transmission Operating Directive 803 such that the County Line 115/69kV transformer does not overload.

OKGE is making provisions for ample capacity in the Draper 345/138kV Substation to minimize the potential for overloading an autotransformer. OKGE will also be reducing the loading of the Helberg 161/69KV transformer by constructing a 69kV line from Short Mountain to Prairie View in 2005 at OKGE's expense. An upgrade of GRDA's Kerr - Kansas Tap 161kV line is delayed as the ratings were updated. Regarding the potential overload of WR's Lawrence Hill 230/115kV transformer, its existing Transmission Operating Directive 625 may be used. WR has reconfigured its network due to 161/115kV transformer failures. This reconfiguration reduced the potential for overloading the Midland 230/115kV transformer. Therefore, an upgrade to the Midland Substation was not assigned.

EDE's Monett - Aurora HT 161kV line is currently being upgraded at its expense and this upgrade is scheduled to be completed by the end of 2002. To eliminate overloading OKGE's Muskogee 161/69KV transformer, load will be transferred to its 161kV system in 2003 at its expense. Given changes in modeled representations of GRDA's Pensacola - Gray Tap 69kV line, no upgrade is required. With the assigned upgrade of EDE's Joplin 161/69kV facility, an upgrade to its Reinmiller facility is deferred until later within the requested term of service.

Given the updated ratings of AEP's London - Friars West 138kV line, no upgrade is required at this time. Regarding the potential overload of both the Perdue - Diana 138kV and Winfield - Adora REC 69kV lines, AEP has plans to install the Winnsboro 138/69kV facility with associated 138kV lines by 1/1/2005. Therefore, the upgrade requirements for both of these lines have been eliminated. Use of KCPL's operating guides eliminates assignable upgrades for the Stilwell 345/161kV Substation. An upgrade to OKGE's Fort Smith 345/161kV Substation was eliminated due to the effects of other upgrades modeled in service. Also, upgrading OKGE's Harden City - Ahloso 69kV line is not required given an effective operating guide



including the use of a switch at the Ahloso facility. This same operating guide also eliminates the upgrade requirement of the Frisco - Harden City 69kV line.

Upon WR's further review of its portion of the Newkirk - Creswell 138kV line, the emergency ratings were adjusted and no upgrade is required. KCPL updated its winter line rating of the Linn County - Paola 161kV line and no upgrades are needed. The Paola - Centennial 161kV line is limited by equipment in the Paola Substation. KCPL is assigning no cost of upgrading the substation as construction is required to accommodate KCPL's generator.

An upgrade to WFEC's Cyril - Anadarko 69kV line is not required as another lower cost alternative is available. This alternative includes expediting WFEC's new Payne Switch Station which was planned to include a 70MVA autotransformer. This new facility is currently scheduled for installation in 2010. This alternative also includes expediting WFEC's Lindsey - Lindsey Sw. 69kV line upgrade. In addition, OKGE's Coal Hill - AVEC Ozark 69kV line requires no changes as a switch replacement has already been completed.

Given the estimated dates when Network Upgrades will be required for the requested Transmission Service to be provided, there are facility limits that will either delay the start date of the service or limit the ATC to less than that requested. Seasonal and annual transfer limits given engineering and construction lead times are listed in Table 5. . The estimated time required to complete the engineering and construction of the first transfer-limiting facility in the summer peak period of 2003 is 24 months after KCPL's receipt of authorization to proceed from SPP. KCPL's new Linn County 345/161kV Substation has a 24 month construction lead time and this addition is scheduled to be completed February 1, 2005. The constraint is due to the outage of the West Gardner - LaCygne 345kV line during the 2003 summer peak period. The minimum ATC during the 2003 summer peak, from June 1 to October 1, is 0MW.

Firm Point-To-Point Transmission Service may be provided to Tenaska during a summer peaking period in the amount requested on a firm basis after the new Linn County 345/161kV Substation and other upgrades are in service. If a completed Service Agreement is received by SPP on or before September 1, 2002, then the requested firm Transmission Service may be

provided by 2006 given no unexpected delays in design, permitting, and construction. The upgrade of several other constraints identified in the corresponding System Impact Study cannot be completed until after the start-date of the requested Transmission Service due to lead times for engineering & construction.

Tables 5, 6 and 7 include lists of capacity of which is less than that requested through the reservation period. Table 6 includes the ATC and the estimate of base rate transmission service charges. The ATC and the estimate of levelized revenue requirements for Network Upgrade are provided in Table 7. The Transmission Customer shall pay the higher of the base rate transmission service charges or the levelized revenue requirements for the Network Upgrades.

### **Third-Party Facilities**

For third-party facilities listed in Table 8, the Transmission Customer is responsible for obtaining arrangements for the necessary upgrades of the facilities per Section 21.1 of the SPP OATT. If requested, SPP is willing to undertake reasonable efforts to assist the Transmission Customer in making arrangements for necessary engineering, permitting, and construction of the third-party facilities.

All currently modeled facilities within SPP were monitored during the development of the corresponding Impact Study. Third-party facilities must be upgraded when it is determined that they are overloaded while accommodating the requested Transmission Service. Third-party facilities include those owned by members of SPP who have not placed their facilities under SPP's OATT.

### **Financial Analysis**

The revenue requirements associated with each assigned Network Upgrade is calculated using the estimated installed cost for each Network Upgrade reflected herein and the annual fixed charge rate of the constructing Transmission Owner. A present worth analysis is conducted,

based on each Transmission Owner's annual fixed charge rates including weighted cost of capital, to determine the levelized revenue requirement of each Network Upgrade. The levelized revenue requirements of all applicable Network Upgrades are summed to determine the total revenue requirements for Network Upgrades associated with the Transmission Service request.

Each request for Transmission Service is evaluated independently as the cost associated with each Network Upgrade is assigned to a request. For new facilities, the Transmission Customer shall pay the total cost through the reservation period including engineering and construction costs and other annual operating costs. When upgrading facilities, the Transmission Customer shall, throughout the reservation period, 1) pay the total engineering and construction 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 facilities based on their respective book values.

The amortization period for Network Upgrades and Direct Assignment facilities shall be the lesser of 1) the reservation period, or 2) the period between the completion of construction within the reservation period and the end of the reservation period. The annual fixed charge rate for each Transmission Owner shall be based on the sum of expenses for a previous calendar year, including weighted cost of capital, composite income tax, other tax, and deferred income tax credit, divided by the plant investment for the same year.

Categories of costs and credits associated with Network Upgrades and Direct Assignment facilities shall include those specified below. The costs allocated to the Transmission Customer throughout the entire reservation period shall be the sum of the levelized present worth of each of the identified cost and credit components based on each Transmission Owner's weighted cost of capital.

1. Amortized engineering and construction costs associated with the new facilities.
2. Annual carrying charges, excluding depreciation, based on the product of 1) total engineering and construction costs associated with the new facilities, and 2) annual fixed charge rate (per-unit).

3. Amortized existing facility credit associated with the replaced facilities including the sum of the depreciated book values of only the reusable facilities within the respective remaining depreciation periods.
4. The salvage value credit of non-usable facilities.
5. Annual carrying charge credits, excluding depreciation, based on the product of 1) book values associated with all replaced facilities, and 2) annual fixed charge rate (per-unit).

In the event that the engineering and construction of a previously assigned Network Upgrade may be expedited, with no additional upgrades, to accommodate a new request for Transmission Service, then the levelized present worth of only the incremental expenses though the reservation period of the new request, excluding depreciation, shall be assigned to the new request. These incremental expenses, excluding depreciation, include 1) the levelized difference in present worth of the engineering and construction expenses given the change in date to complete construction to account for additional interest expense and reduced engineering and construction expense due to inflation, 2) the levelized present worth of all expediting fees, and 3) the levelized present worth of the incremental annual carrying charges, excluding depreciation and interest, during the new reservation period taking into account both a) the reservation in which the project was originally assigned, and b) a reservation, if any, in which the project was previously expedited.

If the capacity of a previously assigned Network Upgrade is insufficient to accommodate a new request for Transmission Service, expediting the upgrade may be needed, and sufficient time is available for the Transmission Owner to accomplish necessary re-design and construction of the upgrade with additional capacity while accommodating previous requests, then the levelized present worth of only the incremental expenses though the reservation period of the new request, including depreciation, shall be assigned to the new request. These incremental expenses include 1) if expediting, the levelized difference in present worth of the previously assigned 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) if expediting, the levelized present worth of all expediting fees, 3) the

levelized present worth of the incremental annual carrying charges associated with the previously assigned upgrade, excluding depreciation and interest, during the new reservation period taking into account both a) the reservation in which the project was originally assigned, and b) a reservation, if any, in which the project was previously expedited, and 4) the levelized present worth of the incremental annual carrying charges, including depreciation, associated with the additional capacity through the reservation period of the new request.

The zone interfaced to the sink with the lowest zonal rate for Firm Point-To-Point Transmission Service is Southwestern Power Administration (SPA). The current zonal rate of SPA is \$690/MW-Month. The base rate transmission service charges from the requested Transmission Service are estimated to be \$51,336,000 for the requested 620MW level of capacity throughout the entire 10-year term.

The estimate of total revenue requirements listed in Table 7 for the required Network Upgrades throughout the requested transaction period is \$110,834,760. The estimated revenue requirements for the required Network Upgrades are greater than the projected base rate transmission service charges over the requested transaction period. Therefore, the Transmission Customer will be responsible for the revenue requirements associated with the Network Upgrades of which are estimated to be \$110,834,760 throughout the transaction period.

The Southwest Power Pool and the affected Transmission Owners including AEP, EDE, GRDA, KCPL, OKGE, SPA, WFEC and WR shall use due diligence to add necessary facilities or upgrade the Transmission System to provide the requested Transmission Service, provided Tenaska agrees to compensate SPP for such costs pursuant to the terms of Section 27 of the SPP Open Access Transmission Tariff. Partial Interim Service is available to Tenaska per Section 19.7 of the SPP Open Access Transmission Service Tariff.

Engineering and construction of all new facilities and modifications will not start until after an executed Service Agreement has been received by SPP and the affected Transmission Owners receive the appropriate authorization to proceed from SPP. In accordance with Section 19.4 of the SPP Open Access Transmission Service Tariff, the Transmission Customer shall provide an

unconditional and irrevocable letter of credit to the SPP in the amount of no less than \$74,230,826 for the initial engineering and construction costs to be incurred by the Transmission Owners. The Transmission Customer shall also maintain a letter of credit in effect during the term of the Transmission Service Agreement. The amount of the letter of credit will be adjusted on an annual basis to reflect amortization of these costs. This amount does not include or offset other letters of credit or deposits as may be required under the tariff.

## **Conclusion**

Given the constraints identified in the System Impact Study SPP-2002-127, estimated engineering and construction costs in addition to lead times for construction of Network Upgrades are provided. These estimated costs are for facilities required to provide the requested Transmission Service. The lead times do not include any allowances for possible delays due to outage conflicts during construction, conflicts with construction during the summer peak, engineering and construction manpower constraints, etc. The lead times are based on engineering starting when SPP provides the Transmission Owners approval to start on the projects.

Based on the results of the System Impact Study SPP-2002-127, Network Upgrades that were identified as required to provide the requested Transmission Service are listed in Tables 1 through 4. Table 1 includes the Network Upgrades and costs assigned to Tenaska to accommodate Transmission Service Request 212202 from AEP to Entergy. Table 2 includes previously assigned Network Upgrades requiring only additional capacity to accommodate this request. Table 3 includes previously assigned Network Upgrades requiring only accelerated in-service dates. Table 4 includes previously assigned Network Upgrades requiring both additional capacity and accelerated in-service dates to accommodate this request.

Throughout the transaction period of the requested Transmission Service, the estimate of the levelized revenue requirements for the required Network Upgrades is \$110,834,760 for Transmission Service Request 212202. This excludes all additional expenses associated with generation reduction at Wolf Creek. ATC allocated to the Transmission Customer is

determined by the least amount of seasonal ATC on an annual basis. A listing of ATC values and monthly revenue requirements for the required Network Upgrades is in Table 7. The base rate transmission service charges are estimated to be \$51,336,000 and the monthly revenue requirements are listed in Table 6. As the base rate transmission service charges are less than the revenue requirements for the required Network Upgrades, the revenue requirements from the Transmission Customer are for those associated with the Network Upgrades.

To complete the request for Transmission Service, SPP must receive the following items from the Transmission Customer: 1) an executed Service Agreement, and 2) an unconditional and irrevocable letter of credit regarding the engineering and construction of Network Upgrades. . Upon receipt of these items by SPP and confirmation by the Transmission Customer, SPP will authorize the applicable Transmission Owners to proceed with the engineering and construction of the Network Upgrades assigned to this request.

In the event that Transmission Customers do not confirm other requests for Transmission Service that have previously assigned Network Upgrades, the assignment of applicable Network Upgrades will need to be reevaluated.

**Table 1**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Chikaskia Tap To Braman 69KV: Ratings were updated by WFEC.	0		12/1/04		N/A
County Line 115/69 KV Transformer: Transmission Operating Directive 803 applicable per WR.	0		6/1/04		N/A
Ferndale Lake Tap To Pittsburg 69KV: Ratings were updated per AEP.	0		6/1/04		N/A
Kerr To Kansas Tap 161KV: Ratings were updated per GRDA.	0		6/1/05		N/A
Lawrence Hill 230/115KV Transformer: Transmission Operating Directive 625 applicable per WR.	0		4/1/05		N/A
Midland 230/115KV Transformer: Reconfiguration of network due to failure of 161- 115 kV transformers per WR.	0		12/1/04		N/A
Monett To Aurora HT 161KV: Reconductor project in progress by EDE.	0		6/1/05		12/31/02

- Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.
- (2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.



**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Reinmiller 161/69KV Transformer: Upgrade excluded as upgrading Joplin SW 161/69 eliminates this constraint.	0	13	6/1/04	2/14/04	N/A
South Gage To Auburn 115KV CKT 1: No upgrade required as documented contingency not applicable per WR.	0		6/1/04		N/A
Tinker #4 To Tinker #2 138KV: Relaying eliminates overload per OKGE.	0		6/1/04		N/A
Wallace Lake To International Paper 138KV: Dolet Hills operating guide effective per AEP.	0		6/1/04		N/A
Wallace Lake To South Shreveport 138KV: Dolet Hills operating guide effective per AEP.	0		6/1/04		N/A
West Gardner To La Cygne 345KV by KCPL: An alternative upgrade will eliminate overloads.	0		6/1/03		N/A
BUFORD TAP TO BULL SHOALS, 161KV: Replace three 600A switches @ Bull Shoals w/ 1200 A switches. Resag conductor and replace structures as necessary to achieve 195 MW rating by SPA. Necessary upgrades completed.	0	6	6/1/03	3/1/03	N/A
Pensacola To Gray Tap 69KV: Line characteristics updated by GRDA.	0	18	6/1/04	3/1/04	N/A

- Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.
- (2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Paola – Centennial 161kV: Rebuild Paola substation so transmission line rating can be increased to conductor limits by KCPL. No assignable cost as construction is required for KCPL generator. (New)	0	18	6/1/03	3/1/2004	3/1/04
Harden City - Ahloso 69KV: Rebuild and Reconductor 10.10 miles 000AS7 line with 477AS33. Excluded as operating guide in effect using switch at Ahloso by OKGE. (SPP-2002-046)	0	24	6/1/08	2/1/05	N/A

- Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.
- (2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Draper 345/138KV XF: Additional capacity to be provided by OKGE.	0	30	4/1/04		N/A
East Centerton To Gentry REC 161KV: Rebuild 19.16 miles with 2156 ACSR by AEP.	0	30	6/1/05	3/1/05	N/A, AEP Increased Ratings
Eureka Springs To Beaver Dam 161KV: Recond. 1.25 miles with 1590 ACSR by AEP.	0	12	12/1/03	2/1/04	N/A, AEP Increased Ratings
Farmington AECC To Chamber Springs Rd 161KV: Replace Farmington Switch by AEP.	60,000	9	6/1/05	6/1/03	6/1/05
Fulton To Patmos 115KV: Recond. 7.1 miles with 1272 ACSR by AEP.	2,100,000	18	6/1/03	3/1/04	3/1/04
Gentry REC To Flint Creek 161KV: Rebuild 1.09 miles with 2156 ACSR. Replace wavetrap jumpers by AEP.	0	12	6/1/05	2/1/04	N/A, AEP Increased Ratings
Lake Elmdale To Chamber Springs Rd 161KV: Rebuild 15 miles with 1590 ACSR by AEP.	6,000,000	24	6/1/06	2/1/05	6/1/04
Lone Star South To Wilkes 138KV: Reset CTs by AEP.	2,000	3	6/1/04	12/1/02	6/1/04
S Fayetteville To Greenland 69KV: Replace 4/0 CU jumpers @ Greenland by AEP.	20,000	9	6/1/05	6/1/03	6/1/05

- Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.
- (2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
S Texarkana REC To Texarkana Plant 69KV: Rebuild 5.92 miles of 266 ACSR with 795 ACSR. Replace 4/0 CU jumpers @ Texarkana Plant by AEP.	0	15	6/1/06	4/15/04	N/A, AEP Increased Ratings
Scrogns To Ferndale Lake Tap 69KV: Rebuild 6.53 miles with 1272 ACSR by AEP.	0	15	6/1/06	4/15/04	N/A, AEP Increased Ratings
Snyder To Frederick JCT 69KV: Reset Frederick Jct. CTs by AEP.	2,000	3	6/1/06	2/1/03	6/1/06
Wilburton To Lone Oak 69KV: Replace 400A line switch # 4839 by AEP.	60,000	9	6/1/04	6/1/03	6/1/04
Winnsboro To Scrogns 69KV: Replace switches, 350 CU jumpers, & reset relays @ Winnsboro by AEP.	80,000	9	6/1/05	6/1/03	6/1/05
IPC JEFFERSON TO LIEBERMAN 138KV: Replace switches @ Lieberman by AEP.	60,000	9	6/1/03	6/1/03	6/1/03
LONGWOOD TO NORAM, 138KV: Reconductor 4.66 miles of bundled 266 ACSR with 1590 ACSR by AEP.	0	15	6/1/03	4/14/04	N/A, AEP Increased Ratings
NORAM TO RAINES, 138KV: Rebuild 5.58 miles of 2-266 ACSR with 1590 ACSR by AEP.	0	18	6/1/03	3/1/04	N/A, AEP Increased Ratings
TATUM TO ROCKHILL, 138KV: Reset CTs @ Rock Hill by AEP.	2,000	3	6/1/06	2/1/03	6/1/06

- Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.
- (2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Cherokee REC - Knox Lee 138kV: Reconductor 3.25 miles of 666 ACSR with 1272 ACSR by AEP.	981,000	12	6/1/03	2/1/04	2/1/04
Cherokee REC - Tatum 138kV: Reconductor 6.25 miles of 666 ACSR with 1272 ACSR by AEP.	1,641,000	18	6/1/03	3/1/04	6/1/04
Rock Hill - Tatum 138kV: Reconductor 0.81 miles 666MCM to 1272 ACSR by AEP.	342,970	12	6/1/03	2/1/04	2/1/04
Lieberman - IPC Jefferson 138kV: Reconductor 26.35 miles of 336 ACSR with 795 ACSR by AEP.	7,172,000	30	6/1/03	3/1/05	3/1/05
Broken Arrow North - Oneta 138KV: Rebuild 4.31 miles of 795 ACSR with 1590 ACSR by AEP. (SPP-2002-046)	2,370,500	18	6/1/07	3/1/04	6/1/07
Chamber Springs Road 345/161KV Transformer: Install 2nd 345/161 kV unit by AEP. (SPP-2002-046)	4,000,000	18	6/1/07	3/1/04	6/1/07
Ferndale Lake Tap - Pittsburg 69KV: Reset CTs @ Pittsburg by AEP. (SPP-2002-046)	10,000	3	6/1/08	2/1/03	6/1/08
Marshall - North Marshall 69KV: Replace 350 CU bus & jumpers @ North Marshall by AEP. (SPP-2002-046)	23,356	9	6/1/07	6/1/03	6/1/07
Oak Hill - Knox Lee 138KV: Replace wavetrap @ Knoxlee by AEP. (SPP-2002-046)	20,000	12	6/1/07	11/15/03	6/1/07

Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.

(2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Pittsburg - Lone Star South 138KV: Reset CT @ Pittsburg by AEP. (SPP-2002-046)	10,000	3	6/1/07	2/1/03	6/1/07
Bonanza Tap - Bonanza 161KV: Rebuild 0.06 miles of 397.5 ACSR with 795MCM ACSR by AEP. (SPP-2002-046)	50,000	12	6/1/08	2/1/04	6/1/08
Lieberman - IPC Jefferson 138 KV: Reset Relays @ Jefferson IPC by AEP. (SPP-2002-046)	5,000	6	6/1/03	3/1/03	3/1/05
Lieberman - IPC Jefferson 138 KV: Reconductor 0.65 miles 397MCM to 795MCM by AEP. (SPP-2002-046)	174,000	30	6/1/03	3/1/05	3/1/05
Longwood - Noram 138KV: Reconductor 4.66 miles of bundled 266 ACSR with 1590 ACSR & replace jumpers by AEP. (SPP-2002-046)	1,577,000	18	6/1/08	3/1/04	6/1/08
Noram - Raines 138KV: Rebuild 5.58 miles of 2-266 ACSR with 1590 ACSR by AEP. (SPP-2002-046)	2,000,000	18	6/1/08	3/1/04	6/1/08
Oak Pan-Harr REC - Longwood 138KV: Rebuild 1.8 miles of 666 ACSR with 1590 ACSR by AEP. (New)	750,000	12	6/1/07	2/1/2004	6/1/07
Raines - Arsenal Hill 138KV: Rebuild 5.32 miles 2-266MCM ACSR with 1590MCM ACSR by AEP. (New)	3,731,000	24	6/1/07	2/1/05	6/1/07
Jacksonville - Overton 138kV: Reset relays at Jacksonville & Overton by AEP. (New)	15,000	6	6/1/07	3/1/03	6/1/07

Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.

(2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Hugo Tap - Valliant 138KV: Replace Wavetrap @ Valliant by AEP. (SPP-2002-046)	30,000	9	12/1/07	6/1/03	12/1/07
Marshall 138/69KV Transformer CKT 1: Replace 755 ACAR Strain Bus by AEP. (New)	25,000	9	12/1/07	6/1/03	12/1/07
Marshall 138/69KV Transformer CKT 2: Replace 755 ACAR Strain Bus by AEP. (New)	25,000	9	12/1/07	6/1/03	12/1/07
Hallsville - Longview Heights 69KV: Rebuild 7.07 miles of 4/0 ACSR with 795 ACSR by AEP. (New)	3,000,000	18	6/1/08	3/1/04	6/1/08
Diamond JCT. To Sarcocie Southwest Tap 69KV: Recond. 1/0 CU with 336 ACSR by EDE.	1,230,000	18	6/1/04	3/1/04	6/1/04
Joplin Southwest 161/69KV Transformer: Replace with 150MVA unit by EDE.	1,565,000	13	6/1/04	2/14/04	6/1/04
Reinmiller 161/69KV Transformer: Replace with a 150 MVA unit by EDE. (SPP-2002-046)	1,730,000	13	6/1/08	2/15/04	6/1/08
Atlas JCT - Carthage 161KV: Reconstruct and replace 8.2 miles of 556 ACSR with Bundled 556 ACSR by EDE. (New)	5,200,000	24	10/1/03	2/1/05	10/1/05
Oronogo - Joplin Oakland North 161KV: Reconstruct and replace 1.4 miles of 556 ACSR with Bundled 556 ACSR by EDE. (New)	800,000	18	6/1/07	3/1/04	6/1/07

Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.

(2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
412SUB - KANSAS TAP 161KV: Reconductor 9.7 miles with 1590MCM ACSR by GRDA. (SPP-2002-046)	1,488,000	12	6/1/07	2/1/04	6/1/07
Kerr - 412SUB 161KV: Reconductor 12.5 miles with 1590MCM ACSR by GRDA. (SPP-2002-046)	1,918,000	12	6/1/07	2/1/04	6/1/07
Titantic Tap - Tahlequah 69KV: Reconductor 9.4 miles with 795MCM ACSR by GRDA. (SPP-2002-046)	1,551,000	18	6/1/07	3/1/04	6/1/07
Bucyrus - Stilwell 161KV: Rebuild Bucyrus line terminal so transmission line rating can be increased to conductor limits by KCPL. (New)	6,000	6	6/1/03	3/1/03	6/1/04
Linn County 345/161kV Substation: Build new substation with 345/161kV 400 Mva transformer. Tap Wolf Creek to LaCygne 345kV line and Centerville to Paola 161kV line by KCPL. (New)	6,945,000	24	6/1/2003	2/1/05	2/1/05
Park Lane To Seminole 138KV: Replace 1200Ct and 1600 Amp switch with 2000Amp equipment by OKGE.	100,000	12	6/1/06	11/15/03	6/1/06
Tahlequah To Highway 59 161KV: Remove switches #130 and #132 to increase rating from 600A to conductor limit of 662 Amps for Rate B and replace structures by OKGE.	30,000	12	6/1/06	2/1/04	6/1/06

Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.

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**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Pecan Creek 345/161KV Transformer: Add 2nd 345/161 kV 369MVA unit by OKGE.	3,000,000	30	6/1/03	3/1/05	3/1/05
Pecan Creek - Muskogee 345KV: Increase CT ratio at Pecan Creek from 800-5 to 2000-5 to allow a 1500 amp rating of line section by OKGE. (SPP-2002-046)	2,500	12	6/1/07	11/15/03	6/1/07
Van Buren - VBI 161KV: OKGE: Replace 3 1200Amp 161kV breakers with 2000 Amp, replace 5 pairs 1200Amp L&M switches with 2000A to increase ring bus to 2000 Amps by OKGE. (SPP-2002-046)	1,100,000	24	6/1/07	2/1/05	6/1/07
Osage - Continental Blacks 69KV: Rebuild & Reconductor 0.57 Miles, replace Wavetrapp and increase CT ratio by OKGE. (SPP-2002-046)	255,000	18	6/1/08	3/1/04	6/1/08
Eureka Springs To Beaver Dam 161KV: Reconductor 6 miles of 795 ACSR with 1590 ACSR. Reconnect CT's to 1000:5 Tap on Bkrs 42 32 & half or 22. Replace metering & reset relays for Line 2 & Line 3 by SPA. Includes environmental study.	1,882,500	18	12/1/03	3/1/04	3/1/04
Gore To Sallisaw 161KV: Increase clearances of approximately ten spans by SPA.	500,000	12	6/1/03	2/1/04	6/1/04

- Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.
- (2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Muskogee Tap To Gore 161KV: Recond. 16 miles with 795 ACSR by SPA.	4,000,000	18	6/1/05	3/1/04	3/1/05 (3)
Midway To Bull Shoals 161KV: Replace disconnect switches, metering CTs and wave trap at Bull Shoals by SPA.	150,000	12	6/1/03	11/16/03	11/16/03
NORFORK TO BUFORD TAP 161KV: Resag conductor and replace structures as necessary by SPA.	250,000	6	6/1/04	3/1/03	6/1/03
Van Buren - VBI 161KV: SPA: Replace metering CTs, disc sw, bkrs, and bus differential relaying at Van Buren by SPA. (SPP-2002-046)	1,000,000	24	6/1/07	2/1/05	6/1/07
Logan - Clay 161KV: Replace transmission line structures to allow operation at 100C by SPA. (SPP-2002-046)	250,000	8	6/1/07	5/1/03	6/1/07
Springfield 161/69KV Transformer #3: Replace 25MVA transformer #3 with 80MVA transformer by SPA. (SPP-2002-046)	1,300,000	12	6/1/07	2/1/04	6/1/07
Muskogee Tap - Gore 161KV: Replace wavetrap and change CT ratios at Gore by SPA. (SPP-2002-046)	30,000	12	6/1/07	11/16/03	6/1/07
Clay - Springfield 161KV: SPA: Replace disconnect switches at Springfield by SPA. (SPP-2002-046)	200,000	12	12/1/07	11/16/03	12/1/07

- Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.
- (2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.
- (3) Required when Pecan Creek upgrade is complete.

**Table 1 (Continued)**  
**Estimated Network Upgrade Costs, Lead Times & In-Service Dates**  
**For Facilities Assigned To Only This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

NETWORK UPGRADE	ENGINEERING & CONSTRUCTION COSTS (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Franklin Switch To Midwest Tap 138KV: Replace 600A metering CTs with 1200A by WFEC.	55,000	9	6/1/06	6/1/03	6/1/06
Southwest Station To Anadarko 138KV: Replace bus, jumpers, switches, supports and foundations at Anadarko Switch Station by WFEC.	450,000	12	6/1/03	2/1/04	6/1/04
Pharoah To Weleetka 138KV: Replace wavetrap at Weleetka and replace jumpers by WFEC.	75,000	4	6/1/05	3/1/03	6/1/05
Gill Energy Center East To Macarthur 69KV: Replace sub bus and jumpers at MacArthur 69 kV by WR.	22,000	12	6/1/03	2/1/04	2/1/04
Gill Energy Center East To Oatville 69KV: Replace disconnect switches at Gill 69 kV (use 800 A.), Replace line switch at Oatville 69 kV (use 800 A.) by WR.	45,000	12	6/1/05	11/15/03	6/1/05
Hoyt HTI Switching JCT To Circleville 115KV: Replace 82 structures by WR.	742,000	6	6/1/03	3/1/03	6/1/03
South Coffeyville To Dearing 138 KV: Replace wave trap to increase rating to conductor rating (2000 A) by WR.	20,000	12	6/1/03	11/16/03	6/1/04
<b>SUBTOTAL</b>	\$74,230,826				

Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.

(2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 2**

**Estimated Network Upgrade Costs, Lead Times & In-Service Dates  
For Previously Assigned Facilities Requiring Only Additional Capacity  
For Request 212202 From AEP To Entergy  
During The 10-Year Period From June 1, 2003 To June 1, 2013**

PREVIOUSLY ASSIGNED NETWORK UPGRADE	NEW ADDED UPGRADE	PREVIOUS REQUEST (NO.)	PREVIOUS ENG. & CONST. COSTS (\$)	CURRENT TOTAL ENG. & CONST. COST (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	PREVIOUSLY SCHEDULED DATE IN SERVICE (M/D/Y)
NONE							
SUBTOTAL			\$0	\$0			

**Table 3**

**Estimated Network Upgrade Costs, Lead Times & In-Service Dates  
For Previously Assigned Facilities Requiring Only Accelerated In-Service Dates  
For Request 212202 From AEP To Entergy  
During The 10-Year Period From June 1, 2003 To June 1, 2013**

PREVIOUSLY ASSIGNED NETWORK UPGRADE	PREVIOUS REQUEST (NO.)	ENGINEERING & CONSTRUCTION COSTS (\$)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	PREVIOUS DATE IN SERVICE (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Lake Elmdale To Dyess 161KV CKT 2: Rebuild 4 miles of 2-397 ACSR with 2156 ACSR. IN 10 year plan scheduled for 2009 by AEP.	Transmission Owner	1,600,000	15	6/1/05	6/1/09	4/15/04	6/1/05
Northwest Henderson - Oak Hill 138KV: Replace wavetrap @ NW Henderson by AEP. (SPP-2002-046)	SPP-2001-365	30,000	12	6/1/07	6/1/08	11/15/03	6/1/07
Crockett - Grimes 345KV: Reset CTs by AEP. (New)	SPP-2001-365	3,000	3	12/1/07	12/1/08	2/1/03	12/1/07
Chestnut To Enid 69KV: Install 138-69kV transformer @NE Enid. No cost to customer by OKGE.	Transmission Owner	0		6/1/04	6/1/04	6/1/04	6/1/04
Helberg 161/69KV Transformer: Construct 69kV line from Short Mountain to Prairie View by OKGE.	Transmission Owner	0	42	6/1/06	6/1/05	3/1/06	6/1/06

- Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.
- (2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 3(Continued)**

**Estimated Network Upgrade Costs, Lead Times & In-Service Dates  
For Previously Assigned Facilities Requiring Only Accelerated In-Service Dates  
For Request 212202 From AEP To Entergy  
During The 10-Year Period From June 1, 2003 To June 1, 2013**

PREVIOUSLY ASSIGNED NETWORK UPGRADE	PREVIOUS REQUEST (NO.)	ENGINEERING & CONSTRUCTION COSTS (\$)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	PREVIOUS DATE IN SERVICE (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
Muskogee 161/69KV Transformer 1: Transfer load to 161kV system by OKGE.	Transmission Owner	0	20	6/1/04	6/1/03	5/1/2004	6/1/04
Larussel To Springfield 161KV: Replace 3 600A disconnect switches with 1200A at Springfield. Planned to upgrade in 2007 by SPA.	Transmission Owner	60,000	8	6/1/06	6/1/07	5/1/03	6/1/06
Norfolk 161/69KV Transformer: Replace unit by SPA.	Transmission Owner	1,000,000	18	6/1/04	6/1/05	3/1/04	6/1/04
Payne Switch Station: Expedite construction of new facility with 70MVA autotransformer by WFEC. (New)	Transmission Owner	1,800,000	18	6/1/07	6/1/10	3/1/04	6/1/07
Lindsay - Lindsay Sw. 69KV: Expedite replacing conductor in 8.0 miles from 1/0 to 556 ACSR, TS-1 to TH-10 by WFEC. (New)	Transmission Owner	1,648,000	18	6/1/07	6/1/10	3/1/04	6/1/07
SUBTOTAL		\$6,141,000					

- Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.
- (2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 4**

**Estimated Network Upgrade Costs, Lead Times & In-Service Dates  
For Previously Assigned Facilities Requiring Both Additional Capacity And Accelerated In-Service Dates  
For Request 212202 From AEP To Entergy  
During The 10-Year Period From June 1, 2003 To June 1, 2013**

PREVIOUSLY ASSIGNED NETWORK UPGRADE	NEW ADDED UPGRADE	PREVIOUS REQUEST (NO.)	PREVIOUS ENG. & CONST. COSTS (\$)	CURRENT TOTAL ENG.& CONST. COST (\$2001)	ENG. & CONST. LEAD TIME (MONTHS)	DATE NEEDED (M/D/Y)	PREVIOUS DATE IN SERVICE (M/D/Y)	POSSIBLE DATE IN SERVICE (M/D/Y) (1)	SCHEDULED DATE IN SERVICE (M/D/Y) (2)
NONE									
SUBTOTAL			\$0	\$0					

- Note: (1) When the projected completion of Network Upgrades is 1) between June 1 and September 15, or 2) between September 15 and 4.5 months thereafter, then 4.5 months are added as these facilities will not be taken out of service during the summer peaking period. Therefore, the possible end of construction is February 1 or later of the next year.
- (2) The scheduled date is normally based on when continuous annual service may be started after the possible in-service date. If N/A, then the facility upgrade/addition is not required, due to its lead time for engineering and construction, as 1) continuous annual service above the ATC limit may be provided only after the requested reservation period, or 2) the facility is not required at a later time within the reservation period due to reduced loading of the facility below its emergency rating.

**Table 5  
Network Elements Assigned To Previous Requests For Transmission Service  
That Limit The ATC To Less Than That Requested  
Due To Engineering And Construction Schedules  
For Request 212202 From AEP To Entergy  
During The 10-Year Period From June 1, 2003 To June 1, 2013**

PREVIOUSLY ASSIGNED NETWORK UPGRADE	PREVIOUS REQUEST (NO.)	DATE IN SERVICE (M/D/Y)	ATC (MW)	ATC MODEL	RESTRICTED OPERATING PERIOD (M/D - M/D) (YEAR)
NONE					

ATC Models

Example Season Designation: From Date – To Date (M/D/Y), Season Description \_\_\_\_\_

02AP: 4/1/02 – 6/1/02, Spring Minimum

02FA: 10/1/02 – 12/1/02, Fall Peak

02SR: 4/1/02 – 6/1/02, Spring Peak

02WP: 12/1/02 – 4/1/03, Winter Peak

02SP: 6/1/02 – 10/1/02, Summer Peak



**Table 6**  
**Summary Of Requested Capacity**  
**And The Estimate Of Base Rate Transmission Service Charges Only,**  
**Excluding The Cost Of Network Upgrades,**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

OPERATING PERIOD (MONTH)	2003 CAPACITY (MW)	2003 BASE RATE REVENUES (\$)	ANNUAL CAPACITY (MW)	ANNUAL BASE RATE REVENUES (\$)	2013 CAPACITY (MW)	2013 BASE RATE REVENUES (\$)
January	N/A	N/A	620	427,800	620	427,800
February	N/A	N/A	620	427,800	620	427,800
March	N/A	N/A	620	427,800	620	427,800
April	N/A	N/A	620	427,800	620	427,800
May	N/A	N/A	620	427,800	620	427,800
June	620	427,800	620	427,800	N/A	N/A
July	620	427,800	620	427,800	N/A	N/A
August	620	427,800	620	427,800	N/A	N/A
September	620	427,800	620	427,800	N/A	N/A
October	620	427,800	620	427,800	N/A	N/A
November	620	427,800	620	427,800	N/A	N/A
December	620	427,800	620	427,800	N/A	N/A
<b>SUBTOTAL BY YEAR</b>	<b>\$2,944,600</b>		<b>\$5,133,600</b> Annually		<b>\$2,139,000</b>	
<b>TOTAL FOR ALL YEARS</b>						<b>\$51,336,000</b>

**Table 7**  
**Summary Of Requested Capacity**  
**And The Estimate Of Network Upgrade Revenue Requirements Only**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

OPERATING PERIOD (Month)	2003 Capacity (MW)	2003 NETWORK UPGRADE REVENUES (\$)	ANNUAL Capacity (MW)	ANNUAL NETWORK UPGRADE REVENUES (\$)	2013 Capacity (MW)	2013 NETWORK UPGRADE REVENUES (\$)
January	N/A	N/A	620	923,623	620	923,623
February	N/A	N/A	620	923,623	620	923,623
March	N/A	N/A	620	923,623	620	923,623
April	N/A	N/A	620	923,623	620	923,623
May	N/A	N/A	620	923,623	620	923,623
June	620	923,623	620	923,623	N/A	N/A
July	620	923,623	620	923,623	N/A	N/A
August	620	923,623	620	923,623	N/A	N/A
September	620	923,623	620	923,623	N/A	N/A
October	620	923,623	620	923,623	N/A	N/A
November	620	923,623	620	923,623	N/A	N/A
December	620	923,623	620	923,623	N/A	N/A
<b>SUBTOTAL BY YEAR</b>	\$6,465,361		\$11,083,476 Annually		\$4,618,115	
<b>TOTAL FOR ALL YEARS</b>						\$110,834,760

Note: Revenues are based on items received by September 1, 2002 including 1) a signed Service Agreement and letter of credit received by SPP, and 2) authorization to proceed with engineering and construction received by Transmission Owners from SPP. Annual ATC allocated to the Transmission Customer in this application is not determined by the least amount of seasonal ATC on an annual basis.

Note: The total cost excludes the up-front expenses associated with 1) a reduction of generation at Wolf Creek, 2) a second contingency at Wolf Creek requiring unit shutdown during maintenance outage, and 3) NRC studies to interconnect with Wolf Creek – LaCygne 345kV line.

**Table 8**  
**Identified Third-Party Network Upgrades & Required In-Service Dates**  
**To Accommodate This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

STUDY YEAR	MODELED THIRD-PARTY OWNER	IDENTIFIED THIRD-PARTY NETWORK ELEMENT	TRANSFER CASE LOADING (%)	DATE NEEDED (M/D/Y)
06SP	AECI	52690 CARTHG 269.0 to 96649 2JASPER 69.0 CKT 1		6/1/05
06SP	AECI	59471 NEO184 5 161 to 96748 2NEOSAC 69.0 CKT 1		6/1/05
06SP	AECI	52690 CARTHG 269.0 to 96751 2REEDS 69.0 CKT 1		6/1/05
04WP	AECI	96082 5GEORGE 161 to 96531 2GEORGE 69.0 CKT 1		12/1/04
04WP	AECI	96098 5MOCITY 161 to 96153 1MOCTN1 100 CKT 1		12/1/04
06SP	AECI	96120 5THMHIL 161 to 96172 2TMHILL 69.0 CKT 2		6/1/06
04WP	AECI	96153 1MOCTN1 100 to 96304 2MOCITY 69.0 CKT 1		12/1/04
04WP	AECI	96154 1MOCTN2 100 to 96098 5MOCITY 161 CKT 2		12/1/04
04WP	AECI	96154 1MOCTN2 100 to 96304 2MOCITY 69.0 CKT 2		12/1/04
04WP	AMRN-AECI	31221 MOBERLY 161 to 96120 5THMHIL 161 CKT 1		12/1/04
04WP	CELE-EES	50024 CARROLL4 138 to 99167 3RINGLD 115 CKT 1		12/1/04
06SP	EES-CELE	99115 3FISHER 115 to 50057 FISHER 4 138 CKT 1		6/1/06
06SP	MIPU-AECI	59216 BUTLER_5 161 to 96689 2BUTLER 69.0 CKT 1		6/1/06
06SP	MIPU-AECI	59217 WINDSR 5 161 to 96071 5CLINTN 161 CKT 1		6/1/05
06SP	NPPD	64181 MAXWELL7 115 to 64039 CALAWAY7 115 CKT 1		6/1/05
06SP	NPPD	64265 ST.LIB 7 115 to 64173 LOUPCTY7 115 CKT 1		6/1/05
06SP	RCEC	53549 JACKSNV4 138 to 53588 OVERTON4 138 CKT 1		6/1/05
06SP	SJLP	69703 ST JOE 5 161 to 69701 MIDWAY 5 161 CKT 1		6/1/05

**Table 8 (Continued)**  
**Identified Third-Party Network Upgrades & Required In-Service Dates**  
**To Accommodate This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

STUDY YEAR	MODELED THIRD-PARTY OWNER	IDENTIFIED THIRD-PARTY NETWORK ELEMENT	TRANSFER CASE LOADING (%)	DATE NEEDED (M/D/Y)
08SP	AECI	96081 5GAINES 161 to 97090 2GNSVL2 69.0 CKT 1	101.0	
08SP	AECI	96127 5CLEVER 161 to 96665 2CLEVER 69.0 CKT 1	100.5	
08WP	AMRN	31408 OVERTON 345 to 31409 OVERTON 161 CKT 1	100.1	
08WP	CELE	50031 COCODR 6 230 to 50039 COUGH 4 138 CKT 1	104.0	
08SP	CELE-EES	50024 CARROLL4 138 to 99167 3RINGLD 115 CKT 1	105.8	
08WP	EES	97453 4DOBBIN 138 to 97457 4LONGMIR 138 CKT 1	101.8	
08WP	EES	97454 4WALDEN 138 to 97469 4APRIL 138 CKT 1	108.1	
08WP	EES	97469 4APRIL 138 to 97470 4LFOREST 138 CKT 1	107.2	
08WP	EES	97470 4LFOREST 138 to 97539 4WDHAVN 138 CKT 1	106.9	
08WP	EES	97480 L558T485 138 to 97484 4HUNTSVL 138 CKT 1	110.5	
08WP	EES	97487 4MT.ZION 138 to 97480 L558T485 138 CKT 1	109.9	
08SP	EES	97487 4MT.ZION 138 to 97480 L558T485 138 CKT 1	110.8	
08WP	EES	97510 4SOTA 1 138 to 97508 4NAVSOTA 138 CKT 1	103.4	
08SP	EES	97513 7GRIMES 345 to 97514 4GRIMES 138 CKT 1	107.7	
08SP	EES	97513 7GRIMES 345 to 97514 4GRIMES 138 CKT 2	107.7	
08WP	EES	97514 4GRIMES 138 to 97454 4WALDEN 138 CKT 1	107.2	
08SP	EES	97514 4GRIMES 138 to 97454 4WALDEN 138 CKT 1	108.7	
08WP	EES	97514 4GRIMES 138 to 97487 4MT.ZION 138 CKT 1	107.2	
08SP	EES	97514 4GRIMES 138 to 97487 4MT.ZION 138 CKT 1	109.4	
08WP	EES	97514 4GRIMES 138 to 97526 4MAG AND 138 CKT 1	105.1	
08WP	EES	97526 4MAG AND 138 to 97510 4SOTA 1 138 CKT 1	104.5	
08WP	EES	97539 4WDHAVN 138 to 97459 4CONROE 138 CKT 1	105.8	
08WP	EES	97686 4LEACH 138 to 97618 4NEWTONB 138 CKT 1	106.6	
08SP	EES	97686 4LEACH 138 to 97618 4NEWTONB 138 CKT 1	105.3	
08SP	EES	97698 4JASPER 138 to 97704 4RAYBURN 138 CKT 1	102.1	
08WP	EES	97708 4TOLEDO 138 to 97686 4LEACH 138 CKT 1	107.3	
08SP	EES	97708 4TOLEDO 138 to 97686 4LEACH 138 CKT 1	106.6	
08WP	EES	97920 6PPG 23 230 to 97919 6VERDINE 230 CKT 1	101.9	
08SP	EES	97920 6PPG 23 230 to 98051 2PPC NO 69.0 CKT 1	100.3	
08SP	EES	99167 3RINGLD 115 to 99168 3SAILES 115 CKT 1	102.9	
08SP	EES	99230 3COUCH 115 to 99280 3TAYLOR 115 CKT 99	102.4	
08SP	EES	99230 3COUCH 115 to 99310 3MCNEIL 115 CKT 1	107.0	
08SP	AECI	96081 5GAINES 161 to 97090 2GNSVL2 69.0 CKT 1	101.0	

**Table 8 (Continued)**  
**Identified Third-Party Network Upgrades & Required In-Service Dates**  
**To Accommodate This Request For Transmission Service**  
**For Request 212202 From AEP To Entergy**  
**During The 10-Year Period From June 1, 2003 To June 1, 2013**

STUDY YEAR	MODELED THIRD-PARTY OWNER	IDENTIFIED THIRD-PARTY NETWORK ELEMENT	TRANSFER CASE LOADING (%)	DATE NEEDED (M/D/Y)
08WP	EES	99263 3LEWIS # 115 to 99230 3COUCH 115 CKT 1	124.9	
08SP	EES	99263 3LEWIS # 115 to 99230 3COUCH 115 CKT 1	122.2	
08WP	EES	99303 3PATMOS# 115 to 99263 3LEWIS # 115 CKT 1	117.7	
08SP	EES	99303 3PATMOS# 115 to 99263 3LEWIS # 115 CKT 1	121.1	
08SP	EES	99387 3MURF-S 115 to 99389 4MURFRE 138 CKT 1	124.2	
08SP	EES	99825 5MIDWAY# 161 to 99827 5MT HOM 161 CKT 1	104.0	
08SP	EES-SWPA	99825 5MIDWAY# 161 to 52660 BULL SH5 161 CKT 1	103.8	
08WP	MIPU-AECI	59217 WINDSR 5 161 to 96071 5CLINTN 161 CKT 1	100.9	
08SP	MIPU-AECI	59217 WINDSR 5 161 to 96071 5CLINTN 161 CKT 1	104.1	
08SP	MIPU	59286 GRDWST 269.0 to 59287 MARTCTY269.0 CKT 1	100.2	
08WP	SWPA-AECI	52690 CARTHG 269.0 to 96649 2JASPER 69.0 CKT 1	102.2	
08WP	SWPA-AECI	52690 CARTHG 269.0 to 96751 2REEDS 69.0 CKT 1	103.6	
08SP	SWPA-AECI	52690 CARTHG 269.0 to 96751 2REEDS 69.0 CKT 1	103.4	
08WP	SWPA	52688 CARTHAG5 161 to 52690 CARTHG 269.0 CKT 1	101.4	
08WP	EES	99263 3LEWIS # 115 to 99230 3COUCH 115 CKT 1	124.9	
08SP	EES	99263 3LEWIS # 115 to 99230 3COUCH 115 CKT 1	122.2	
08WP	EES	99303 3PATMOS# 115 to 99263 3LEWIS # 115 CKT 1	117.7	
08SP	EES	99303 3PATMOS# 115 to 99263 3LEWIS # 115 CKT 1	121.1	
08SP	EES	99387 3MURF-S 115 to 99389 4MURFRE 138 CKT 1	124.2	
08SP	EES	99825 5MIDWAY# 161 to 99827 5MT HOM 161 CKT 1	104.0	
08SP	EES-SWPA	99825 5MIDWAY# 161 to 52660 BULL SH5 161 CKT 1	103.8	
08WP	MIPU-AECI	59217 WINDSR 5 161 to 96071 5CLINTN 161 CKT 1	100.9	
08SP	MIPU-AECI	59217 WINDSR 5 161 to 96071 5CLINTN 161 CKT 1	104.1	
08SP	MIPU	59286 GRDWST 269.0 to 59287 MARTCTY269.0 CKT 1	100.2	
08WP	SWPA-AECI	52690 CARTHG 269.0 to 96649 2JASPER 69.0 CKT 1	102.2	
08WP	SWPA-AECI	52690 CARTHG 269.0 to 96751 2REEDS 69.0 CKT 1	103.6	
08SP	SWPA-AECI	52690 CARTHG 269.0 to 96751 2REEDS 69.0 CKT 1	103.4	
08WP	SWPA	52688 CARTHAG5 161 to 52690 CARTHG 269.0 CKT 1	101.4	
08WP	EES	99263 3LEWIS # 115 to 99230 3COUCH 115 CKT 1	124.9	
08SP	EES	99263 3LEWIS # 115 to 99230 3COUCH 115 CKT 1	122.2	
08WP	EES	99303 3PATMOS# 115 to 99263 3LEWIS # 115 CKT 1	117.7	
08SP	EES	99303 3PATMOS# 115 to 99263 3LEWIS # 115 CKT 1	121.1	