



SPP

*Southwest
Power Pool*

System Facilities Study

For Transmission Service Request 350661

Requested By

Exelon Generation Co., LLC

From American Electric Power West

To Entergy

For The Requested Amount Of 400MW

With 226MW Allocated Including

Curtailment Requirements

From June 1, 2002

To June 1, 2003

SPP Coordinated Planning

(#SPP-2002-050-1)

Created May 28, 2002

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Southwest Power Pool
Transmission Service Request #350661
SPP System Facilities Study SPP-2002-050-1

Executive Summary

At the request of Exelon Generation Co., LLC (EGC), the Southwest Power Pool developed this Facilities Study for the purpose of evaluating the financial characteristics of Transmission Service Request 350661. This request is for 400MW of Firm Point-To-Point Transmission Service from American Electric Power West (Central and South West, CSWS) to Entergy (EES). The requested term of this Transmission Service is from June 1, 2002 to June 1, 2003. This request is a renewal of the previously confirmed reservation 296669 for 400MW. The available capacity being allocated is 226MW, and this allocation requires the curtailment of reservation 296672 on a pre-contingency basis.

The projected base rate transmission service charges (excluding charges for ancillary services) are \$1,871,280 during the applicable portion of the reservation period based on the available transfer capability (ATC) of the existing transmission system, 226MW, without Network Upgrades and with curtailment of reservation 296672. 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. Given the lead times to engineer and construct the Network Upgrades required to increase the ATC, the Network Upgrades cannot be placed in service before, or even during, the summer peak season in 2002. Therefore, the estimated levelized revenue requirements for providing the necessary Network Upgrades to accommodate the Transmission Service request are \$0. As the estimated base rate transmission service charges are greater than the estimated revenue requirements for Network Upgrades, EGC shall pay the base rate transmission service charges.

Annual ATC allocated to the Transmission Customer is determined by the least amount of seasonal ATC on an annual basis. Allocated ATC and associated revenue requirements are based on an executed Service Agreement received on or about June 1, 2002. As

Network Upgrades are not available, SPP as the Transmission Provider does not require an unconditional and irrevocable letter of credit. 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 current ATC. Pursuant to the System Impact Study SPP-2002-050 dated April 16, 2002, the ATC is 0MW. However, the ATC is 226MW with curtailment of reservation 296672, from CSWS to AMRN for 400MW, on a pre-contingency basis.

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-2002-050 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 CSWS, Grand River Dam Authority (GRRD), Kansas City Power & Light (KACP) and Southwestern Power Administration (SWPA) transmission systems. Due to the in-service dates of these Network Upgrades, some may limit and delay the requested Transmission Service. The ATC values associated with only transfer-limiting upgrades are listed in [Table 7](#).

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. The ATC values associated with only transfer-limiting upgrades are listed in Table 6.

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, no previously assigned Network Upgrade will require 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. The ATC values associated with only transfer-limiting upgrades are listed in Table 6.

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. The ATC values associated with only transfer-limiting upgrades are listed in Table 6.

One constraint identified in the Impact Study is not addressed in this Facilities Study as the Transmission Owner determined that upgrades are not required. SWPA's terminal for the Carthage – Reeds Spring 69kV line does not require an upgrade given a previously

assigned upgrade scheduled for completion June 1, 2001. However, a third-party upgrade to Associated Electric Cooperative's Carthage – Reeds Spring 69kV line may be required.

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. Transfer-limiting facilities are listed in Tables 6 and 7. Seasonal and annual transfer limits given engineering and construction lead times are listed in Table 5. A summary of ATC throughout the reservation period is included in Table 8. The estimated time required to complete the engineering and construction of the most transfer-limiting facility in the summer peak period of 2002 is twelve (12) months after CSWS's receipt of authorization to proceed from SPP. CSWS's Cherokee – Knox Lee 138kV transmission line has a 12 month construction lead time and this upgrade may be scheduled for completion on June 1, 2003. The constraint is due to the multiple outage of the Southwest Shreveport - Longwood 345kV and the Southwest Shreveport – Diana 345kV lines during the 2002 summer peak period. The minimum ATC during the 2002 summer peak, from June 1 to October 1, is 0MW without curtailing another reservation. An upgrade to eliminate an overload of KACP's Stilwell – LaCygne 345kV line has a lead-time of 24 months.

Firm Point-To-Point Transmission Service may be provided to EGC during a summer peaking period in the amount requested after the Cherokee – Knox Lee 138kV facility upgrade is in service. However, an upgrade to the Cherokee – Knox Lee 138kV line cannot be completed until the end of the requested reservation period. Therefore, reservation 296672 must be curtailed on a pre-contingency basis. If a completed Service Agreement is received by SPP on or about June 1, 2002, then 226MW of the requested Transmission Service may be provided throughout the reservation period with curtailment of reservation 296672 on a pre-contingency basis. The upgrade of several other constraints identified in the corresponding Impact Study cannot be completed until after the end-date of the requested Transmission Service due to lead times for engineering & construction.

SPP does not accept requests for firm Transmission Service without restrictions if the design criteria specified in the corresponding Impact Study are not met. However, SPP may accept a request with a reduction of provided capacity to designated levels within the specified time frames as listed in Table 8. SPP accepts this request for Transmission Service given this allocation of capacity of which is less than that requested through the entire reservation period.

Tables 5, 8, 9 and 10 include lists of capacity of which is less than that requested through the reservation period. Table 9 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 10. 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 11, 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 facilities within SPP, of which are currently modeled, 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 through 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 though 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 (SWPA). The current zonal rate of SWPA is \$690/MW-Month. Table 8 includes a summary of ATC values with all assigned Network Upgrades energized by the Date In Service specified in Tables 6 and 7. Given the lesser of these values of ATC and the requested capacity, corresponding base rate transmission service charges are listed on a monthly basis in Table 9. The base rate transmission service charges from the requested Transmission Service are estimated to be \$1,871,280.

The estimate of total revenue requirements listed in Table 10 for the required Network Upgrades throughout the requested transaction period is \$0. The estimated revenue requirements for the required Network Upgrades are less than the projected base rate transmission service charges over the requested transaction period. Therefore, the Transmission Customer will be responsible for the base rate transmission service charges of which are estimated to be \$1,871,280 throughout the transaction period.

Conclusion

Given the constraints identified in the System Impact Study SPP-2002-050, 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 Impact Study SPP-2002-050, available 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 the EGC to accommodate Transmission Service Request 350661 from CSWS 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 \$0 for Transmission Service Request 350661. 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 10. The base rate transmission service charges are estimated to be \$1,871,280 and the monthly revenue requirements are listed in Table 9. As the base rate transmission service charges are greater than the revenue requirements for the required Network Upgrades, the revenue requirements from the Transmission Customer are the base rate transmission service charges.

To complete the request for Transmission Service, SPP must receive an executed Service Agreement from the Transmission Customer within 15 days of receipt of this study. The Transmission Customer must also confirm this request on Southwest Power Pool's OASIS pursuant to the results of this Facilities Study.

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 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003

NETWORK UPGRADE	COSTS TO ENGINEER & CONSTRUCT (\$2002)	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)
None.					
SUBTOTAL	\$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 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 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003**

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 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003**

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)
None.							
SUBTOTAL		\$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 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 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003**

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 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
Transfer Limits Given Engineering And Construction Lead Times
Of Previously Assigned Facilities And Facilities Assigned To This Request
For Request 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003

PREVIOUS OR THIS RESERVATION		THIS RESERVATION		PREVIOUS OR THIS RESERVATION		CALCULATED		POSSIBLE (1)		SCHEDULED (2)
NETWORK ELEMENT	TRANS. OWNER	ATC (MW)	ATC (MODEL)	DATE UPGRADE NEEDED (M/D/Y)	ENG. & CONST. LEAD TIME (MONTH)	DATE AVAIL-ABLE (M/D/Y)	DELAY (MONTH)	DATE AVAIL-ABLE (M/D/Y)	DELAY (MONTH)	DATE AVAILABLE (M/D/Y)
Other's Request 212202, SPP-2000-108, with a contract date of 11/15/2001.										
Cherokee REC - Knox Lee 138kV Recond 3.25 miles of 666 ACSR with 1272 ACSR.	CSWS	0	02SP	6/1/02	12	6/1/03	12	6/1/03	12	6/1/04 (3)
Midway To Bull Shoals 161KV: Replace disconnect switches, metering CTs and wave trap at Bull Shoals	SWPA	356	02SP	6/1/02	12	6/1/03	12	6/1/03	12	6/1/04 (3)
LA CYGNE TO STILWELL 345KV: Add Lynn County Transformer.	KACP	0	02SP	6/1/02	24	6/1/04	24	6/1/04	24	6/1/2004 (3)
Minimum 6/1 – 10/1:		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 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) Scheduled completion date to accommodate previous request. Completion possible only after this reservation period.

Table 5 (Continued)
Transfer Limits Given Engineering And Construction Lead Times
Of Previously Assigned Facilities And Facilities Assigned To This Request
For Request 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003

PREVIOUS OR THIS RESERVATION		THIS RESERVATION		PREVIOUS OR THIS RESERVATION		CALCULATED		POSSIBLE (1)		SCHEDULED (2)
NETWORK ELEMENT	TRANS. OWNER	ATC (MW)	ATC (MODEL)	DATE UPGRADE NEEDED (M/D/Y)	ENG. & CONST. LEAD TIME (MONTH)	DATE AVAIL-ABLE (M/D/Y)	DELAY (MONTH)	DATE AVAIL-ABLE (M/D/Y)	DELAY (MONTH)	DATE AVAILABLE (M/D/Y)
This Request 350661, SPP-2002-050, with a contract date of 6/1/2002.										
Claremore 161/69KV Transformer 1: Add 3rd 45/60/75/84MVA autotransformer, bay, BKR's, etc.	GRRD	188	02SP	6/1/02	12	6/1/03	12	6/1/03	12	N/A (3)
Claremore 161/69KV Transformer 2: Add 3rd 45/60/75/84MVA autotransformer, bay, BKR's, etc.	GRRD	87	02SP	6/1/02	12	6/1/03	12	6/1/03	12	N/A (3)
Bristow 138/69KV Transformer 1 & 2: Replace 2 autos for 45/60/75/84MVA with BKR's, etc.	GRRD	166	02SP	6/1/02	12	6/1/03	12	6/1/03	12	N/A (3)

- 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 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) Completion possible only after this reservation period.

Table 5 (Continued)
Transfer Limits Given Engineering And Construction Lead Times
Of Previously Assigned Facilities And Facilities Assigned To This Request
For Request 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003

PREVIOUS OR THIS RESERVATION		THIS RESERVATION		PREVIOUS OR THIS RESERVATION		CALCULATED		POSSIBLE (1)		SCHEDULED (2)
NETWORK ELEMENT	TRANS. OWNER	ATC (MW)	ATC (MODEL)	DATE UPGRADE NEEDED (M/D/Y)	ENG. & CONST. LEAD TIME (MONTH)	DATE AVAIL-ABLE (M/D/Y)	DELAY (MONTH)	DATE AVAIL-ABLE (M/D/Y)	DELAY (MONTH)	DATE AVAILABLE (M/D/Y)
This Request 350661, SPP-2002-050, with a contract date of 6/1/2002 (Continued).										
LONGWOOD TO NORAM 138KV: Reconductor 4.66 miles of bundled 266 ACSR with 1590 ACSR.	CSWS	333	02SP	6/1/02	18	12/1/03	18	4/15/2004	22.5	N/A (3)
Gentry REC To Flint Creek 161KV: Rebuild 1.09 miles of 2-397.5 ACSR with 2156 ACSR. Replace wavetrap jumpers. Replace Flint Creek wavetrap.	CSWS	313	02SP	6/1/02	12	6/1/03	12	6/1/03	12	N/A (3)
Carthage - Reeds Spring 69kV: No upgrade required.	SWPA	400	02SP							N/A
Minimum 6/1 – 10/1:		87								
Minimum 6/1 – 10/1 For All Overloaded Facilities With Upgrades Assigned To All Reservations:		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 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) Completion possible only after this reservation period.

Table 6
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 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003

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)
Cherokee REC - Knox Lee 138kV Recond 3.25 miles of 666 ACSR with 1272 ACSR By CSWS.	212202	6/1/04 (1)	0	02SP	<u>6/1 - 10/1</u> 2002
Midway To Bull Shoals 161KV: Replace disconnect switches, metering CTs and wave trap at Bull Shoals by SWPA.	212202	6/1/04 (1)	356	02SP	<u>6/1 - 10/1</u> 2002
LA CYGNE TO STILWELL 345KV: Add Lynn County Transformer.	212202	6/1/2004 (1)	0	02SP	<u>6/1 - 10/1</u> 2002

Note (1) Not expedited to 6/1/02 in order to accommodate this request for Transmission Service on 6/1/02 as completion is not possible during reservation period.

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

02G: 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 7
Network Elements Assigned To This Transmission Service Request
That Limit The ATC To Less Than That Requested
Due To Engineering And Construction Schedules
For Request 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003**

NETWORK UPGRADE	DATE IN SERVICE (M/D/Y)	ATC (MW)	ATC MODEL	RESTRICTED OPERATING PERIOD (M/D - M/D) (YEAR)
Claremore 161/69KV Transformer 1: Add 3rd 45/60/75/84MVA autotransformer, bay, BKR's, etc. by GRRD.	N/A (1)	188	02SP	<u>6/1 - 10/1</u> 2002
Claremore 161/69KV Transformer 2: Add 3rd 45/60/75/84MVA autotransformer, bay, BKR's, etc. by GRRD.	N/A (1)	87	02SP	<u>6/1 - 10/1</u> 2002
Bristow 138/69KV Transformer 1 & 2: Replace 2 autos for 45/60/75/84MVA with BKR's, etc. by GRRD.	N/A (1)	166	02SP	<u>6/1 - 10/1</u> 2002
LONGWOOD TO NORAM 138KV: Reconductor 4.66 miles of bundled 266 ACSR with 1590 ACSR by CSWS.	N/A (1)	333	02SP	<u>6/1 - 10/1</u> 2002
Gentry REC To Flint Creek 161KV: Rebuild 1.09 miles of 2-397.5 ACSR with 2156 ACSR. Replace wavetrap jumpers. Replace Flint Creek wavetrap by CSWS.	N/A (1)	313	02SP	<u>6/1 - 10/1</u> 2002
Carthage - Reeds Spring 69kV: No upgrade required by SWPA. However, third-party upgrade may be required.	N/A	400	02SP	<u>6/1 - 10/1</u> 2002

Note (1) Not scheduled 6/1/02 in order to accommodate this request for Transmission Service as completion is not possible during reservation period.

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

02G: 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 8
Summary Of Available Transfer Capability
With All Network Upgrades Assigned To This And Previous Reservations
For Request 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003

OPERATING PERIOD (YEAR)	OPERATING PERIOD (M/D - M/D)	ATC (MW)
2002	6/1 – 10/1	226 (1)
2002	10/1 – 12/1	400
2002	12/1 – 12/31	400
2003	1/1 – 4/1	400
2003	4/1 – 6/1	400
2002 Summary	6/1 – 12/31	226 (1)
2003 Summary	1/1 – 6/1	226

Note: (1) ATC from June 1 to October 1 is 0MW. The value of allocated ATC in the amount of 226MW is based on the curtailment of reservation 296672, from CSWS to Ameren for 400MW, on a pre-contingency basis from June 1 to October 1, 2002 as documented in SPP System Impact Study SPP-2002-050. Annual ATC allocated to the Transmission Customer is determined by the least amount of seasonal ATC on an annual basis.

Table 9
Summary Of Available Transfer Capability With All Network Upgrades
And The Estimate Of Base Rate Transmission Service Charges Only,
Excluding The Cost Of Network Upgrades,
For Request 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003

OPERATING PERIOD	2002		2003		2004	
	ATC (MW)	BASE RATE REVENUE (\$)	ATC (MW)	BASE RATE REVENUE (\$)	ATC (MW)	BASE RATE REVENUE (\$)
January	N/A	0	226	155,940	N/A	0
February	N/A	0	226	155,940	N/A	0
March	N/A	0	226	155,940	N/A	0
April	N/A	0	226	155,940	N/A	0
May	N/A	0	226	155,940	N/A	0
June	226	155,940	N/A	0	N/A	0
July	226	155,940	N/A	0	N/A	0
August	226	155,940	N/A	0	N/A	0
September	226	155,940	N/A	0	N/A	0
October	226	155,940	N/A	0	N/A	0
November	226	155,940	N/A	0	N/A	0
December	226	155,940	N/A	0	N/A	0
SUBTOTAL BY YEAR		\$1,091,580		\$779,700		0
TOTAL FOR ALL YEARS	\$1,871,280					

Note: The value of allocated ATC in the amount of 226MW is based on the curtailment of reservation 296672, from CSWS to Ameren for 400MW, on a pre-contingency basis as documented in SPP System Impact Study SPP-2002-050. Annual ATC allocated to the Transmission Customer is determined by the least amount of seasonal ATC on an annual basis.

Table 10
Summary Of Available Transfer Capability With All Network Upgrades
And The Estimate Of Network Upgrade Revenue Requirements Only
For Request 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003

OPERATING PERIOD	2002		2003		2004	
	ATC (MW)	NETWORK UPGRADE REVENUE (\$)	ATC (MW)	NETWORK UPGRADE REVENUE (\$)	ATC (MW)	NETWORK UPGRADE REVENUE (\$)
January	N/A	0	226	0	N/A	0
February	N/A	0	226	0	N/A	0
March	N/A	0	226	0	N/A	0
April	N/A	0	226	0	N/A	0
May	N/A	0	226	0	N/A	0
June	226	0	N/A	0	N/A	0
July	226	0	N/A	0	N/A	0
August	226	0	N/A	0	N/A	0
September	226	0	N/A	0	N/A	0
October	226	0	N/A	0	N/A	0
November	226	0	N/A	0	N/A	0
December	226	0	N/A	0	N/A	0
SUBTOTAL BY YEAR		\$0		\$0		
TOTAL FOR ALL YEARS						\$0

Note: The value of allocated ATC in the amount of 226MW is based on the curtailment of reservation 296672, from CSWS to Ameren for 400MW, on a pre-contingency basis as documented in SPP System Impact Study SPP-2002-050. Annual ATC allocated to the Transmission Customer is determined by the least amount of seasonal ATC on an annual basis.

Table 11

**Identified Third-Party Network Upgrades & Required In-Service Dates
To Accommodate This Request For Transmission Service
For Request 350661 From CSWS To Entergy
During The Period From June 1, 2002 To June 1, 2003**

IDENTIFIED THIRD-PARTY NETWORK UPGRADE	DATE NEEDED (M/D/Y)
MEC: 64000 LEMARST5 161 to 63889 PLYMOTH5 161 CKT 1	6/1/2002
AECI: 52690 CARTHG 269.0 to 96751 2REEDS 69.0 CKT 1	6/1/2002
EES: 99825 5MIDWAY# 161 to 52660 BULL SH5 161 CKT 1	6/1/2002
OPPD: 65390 S1263T1T 161 to 65627 W BROCK869.0 CKT 1	10/1/2002
EES: 97920 6PPG 23 230 to 98052 2PPC SO 69.0 CKT 1	10/1/2002
EES: 97920 6PPG 23 230 to 98051 2PPC NO 69.0 CKT 1	10/1/2002
AMRN: 31221 MOBERLY 161 to 31409 OVERTON 161 CKT 1	4/1/2003