Appendix 4.F Waiver Documents related to 4 CSR 240-22.040 (3), (6), and (7)

The following appendices comprise Appendix 4.F:

Appendix 4.F.1 Documentation of SPP Large Generator Transmission Interconnection and Long-Term Firm Transmission Service Costing Process

Appendix 4.F.1.1 SPP LGIP Guidelines

Appendix 4.F.1.2 SPP Long Term Firm Transmission Service Guidelines

Appendix 4.F.2 Transmission Cost Calculation

Appendix 4.F.1 Documentation of SPP Large Generator Transmission Interconnection and Long-Term Firm Transmission Service Costing Process

Transmission costs associated with a new generating resource fall into two distinct categories:

1. Physical Interconnection to the Grid: Large Generator Interconnection Procedure (LGIP) costs are associated with all work required to physically interconnect a generating unit to the transmission grid. The various studies performed under the requirements of the LGI process identify the types and costs of equipment needed at both the interconnection substation plus any network upgrades on the transmission grid necessary to safely inject electrical energy onto the transmission grid. The attached guidelines for Generation Interconnection Requests for SPP's Transmission System spell out in detail the process.
2. Long-Term Firm Transmission Service: The Southwest Power Pool (SPP) process for providing firm transmission service does not allow a utility to identify costs for a wide range of potential new generating resources. Specifically, Long-Term Firm Transmission Service costs are determined under an Aggregate Transmission Service Study (ATSS) in which a specific generating resource and its corresponding load is identified. In the ATSS process all requests from parties planning to install generation are compiled into a single study in which the base assumption is that all requests will ultimately be in service on the dates specified in their applications.

   The outcome of the first round of studies for any given ATSS is to identify all necessary transmission system upgrades both within the SPP and border power pools. Once these costs are identified then each applicant has the option to either continue on in the process or

drop out. If any applicants opt to drop out then a re-study is performed by SPP to determine the impacts of changes in the study parameters. After the second round of studies is completed the remaining applicants are again given the option to either continue or drop out. As with the previous studies, if any applicants drop out the study will be performed again with the new study parameters. A final evaluation is ultimately performed, but a utility must commit to installing the generating unit at this point in the process. The Guidelines for Entering Long-Term Firm Transmission Service Requests as Part of the SPP Aggregate Transmission Service Study (ATSS) are attached.

Appendix 4.F.1.1 SPP LGIP Guidelines

Guidelines for Generation Interconnection Requests to SPP's Transmission System (Revised 5-1-06)

1. Application

To make a Generation Interconnection Request, the applicant shall complete the "Interconnection Request" (Appendix 1 and Attachment A to LGIP) and return it to SPP along with a refundable deposit of $10,000. Required information for a valid request, as stated by the procedure, is listed below.

1) Type of Interconnection Service requested.
2) Size (in MW) and location of the proposed plant,
3) Proposed method of interconnecting the plant to the SPP transmission system, and
4) In-service date of the proposed plant,
5) Name, address, phone number and e-mail of Interconnection Customer's contact person,
6) Approximate location of the proposed Point of Interconnection,
7) Interconnection Customer Data as set forth in Attachment A.
8) Interconnection Customer shall provide evidence of ownership in or right to acquire the site of the proposed plant, or a posting of an additional $10,000.

Once received, SPP will review the completed application. The Interconnection Customer's initial $10,000 shall be considered as a prepayment for the cost of the Feasibility study. This prepayment cost shall be either wired to an account as designated by SPP or sent in with the initial Interconnection Request. Once the prepayment has been received, and the Interconnection Request has been validated the SPP will assign the project a queue position. The SPP will send the Feasibility Study Agreement to the Interconnection Customer for execution.

Note that each Generation Interconnection request shall investigate a single interconnection arrangement unless available alternate Point(s) are determined during the scoping meeting. If multiple sites, configurations, or generation output levels are desired, separate Interconnection Requests must be made and separate Feasibility Study Agreements must be executed.

Generation Interconnection Customers must request transmission service in accordance with the terms of SPP's Open Access Transmission Tariff.

SPP's Interconnection Agreement and the Interconnection Procedure may be downloaded by visiting SPP's website, www.spp.org, and going to the System Impact Studies page under Interconnection Documents. Any questions regarding Generation Interconnection requests can be addressed to:

John Mills	or	Charles Hendrix
501-614-3356		501-614-3546
jmills@spp.org		chendrix@spp.org

2. Feasibility Study

The **Feasibility Study** assesses the practicality and costs involved to incorporate the generating unit or units into the SPP Transmission System. The analysis is limited to load flow analysis of the more probable contingencies within the Transmission Owner's control area and key adjacent areas. The feasibility study does not include short circuit or stability studies. The generator will be modeled at the location and during the time period specified in the Feasibility Study Letter Agreement.

Feasibility Study Methodology
A load flow analysis is conducted with and without the new generation so that the proposed generator's impact on the local area can be identified. The results of load flow analysis include power flow magnitudes and voltage levels under probable contingency conditions. The results of the load flow study will be used to identify equipment overloads and excessive voltage deviations that may be encountered due to the addition of new generation. The study shall be conducted using the ACCC function of PSS/E.

SPP shall make reasonable efforts to complete the Feasibility Study within 45 calendar days after receipt of the executed Feasibility Study Agreement. After this study is completed, SPP will post the results of the Feasibility Study on the public SPP OASIS study page. Since this is a public site the customer's identity will be kept confidential.

3. System Impact Study

After completion of the Feasibility Study, SPP will send to the customer a System Impact Study Agreement. The customer shall have 30 calendar days to review, execute and return the System Impact Study Agreement to SPP. At this time the customer shall either wire or send an additional $50,000 prepayment for the System Impact Study. If the System Impact Study cost estimate requires more funds the System Impact Study will not begin until the appropriate funds are received by the SPP. The remainder of the prepayment is refundable to the customer at the end of the process based on the actual cost for the study. If the agreement is not returned within 30 calendar days, the Customer's request shall be deemed withdrawn.

The **System Impact Study** is primarily a Transient Stability Study of the Generation Interconnection Request. However, a refinement of the Feasibility Study may be addressed upon need. The SPP shall make reasonable efforts to complete the System Impact within 90 calendar days after receipt of the executed System Impact Study Agreement. Studies may be performed either by SPP personnel, Transmission Owner personnel, or external contractors.

System Impact Study Methodology

A transient stability analysis will be performed to determine generator unit response due to a fault on the system and unit outages. The study will focus in the area of the added generation. The transient stability analysis will determine:

1) Unit stability during faults 2) Voltage levels, frequency levels, and frequency deviation at the point of interconnection 3) Synchronous generator rotor oscillations and real and reactive power outputs

This information will be collected before the disturbance, at the time of the disturbance, at discrete time intervals during the disturbance, and after the removal of the disturbance from the system.

System Impact Study Data Requirements

The following data will be required to begin the Detailed Interconnection Study: 1) Synchronous machine data 2) Exciter data and models 3) Governor data and models 4) Step up transformer data (positive and zero sequence) 5) Line impedance to interconnection point (positive and zero sequence) 6) Power system stabilizer data (if installed) 7) Short circuit data

Customers with incomplete data will be sent a cure notice to provide the required information. Failure to provide the information prior to the end of the cure period shall cause the SPP Generation Interconnection queue position to be deemed withdrawn. Accordingly, a customer that has been issued a cure notice because it has failed to provide adequate information may receive its final interconnection study report later than the next customer in the queue. Utilizing this process allows those customers that have provided the necessary information not to be delayed by those customers that have not yet provided such information.

SPP shall make reasonable efforts to complete the Impact Study within 90 calendar days after receipt of the executed Impact Study Agreement. After this study is completed, SPP will post the results of the Impact Study on the public SPP OASIS study page. Since this is a public site the customer's identity will be kept confidential.

4. Facility Study

Upon completion of the System Impact Study, SPP will send the customer a Facility Study Agreement. The customer shall have 30 calendar days to review, execute and return the Facility Study Agreement to SPP. At this time the customer shall either wire or send an additional $100,000 prepayment. The remainder of the prepayment is refundable to the customer at the end of the process based on the actual cost for the study. If the agreement is not returned within 30 calendar days, the Customer's request shall be deemed withdrawn.

The Facility Study consists of two parts, a Facility Analysis and a Short Circuit Analysis. The Facility Analysis consists of SPP or Transmission Owner specifying and estimating the cost of equipment, engineering, procurement and construction cost needed to implement the Interconnection to the Transmission system. Facilities will be looked at that were identified in the Feasibility and System Impact Studies. These facilities will have detailed cost estimates.

A short circuit (*i.e.*, fault current) analysis will be performed to determine the effect that the new generation will have on the system fault currents. The new fault current levels will be used to evaluate the impact of the new generation on the fault duty (*i.e.*, fault current interrupting capability or rating) of existing equipment, such as circuit breakers and switches. The results of this analysis may identify which equipment would have to be replaced as a result of the new generation.

The deliverables of this study will be a Facility Study Report. SPP and Transmission Owner shall make reasonable efforts to complete the Facility Study within either 90 Calendar days, with no more than +/- 20% cost estimate contained in the report or 180 Calendar days, with no more than +/- 10% cost estimate contained in the report, after receipt of the Facility Study Agreement. The Interconnection Customer shall appropriately mark the Schedule Election of the Facilities Study Agreement which level of estimate is requested.

After this study is completed, SPP will post the results of the Facility Study on the public SPP OASIS study page. Since this is a public site the customer's identity will be kept confidential.

5. Re-Study

If Re-Study of the Interconnection Customer's request for interconnection is required due to a higher queued project dropping out of the queue or a modification of a higher queued project the SPP shall notify the Interconnection Customer in writing. The SPP shall make reasonable efforts to complete the re-study within 60 Calendar days from the notice. Any cost of re-study shall be born by the Interconnection Customer. The Interconnection Customer shall be responsible for prepaying the cost of the re-study.

6. Generation Interconnection Agreement

Upon completion of the Facility Study, SPP shall send the Customer, as soon as practical, a Generation Interconnection Agreement (LGIA) to be executed by the Customer, SPP, and the Transmission Owner. The agreement allows a physical interconnection of the generator to the SPP transmission grid. Other documents may also be required depending on the individual circumstances. Within 15 Business days after receipt of the final LGIA the Interconnection Customer shall provide the SPP (A) reasonable evidence that continued site control or (B) posting of $ 250,000, non-refundable additional security, which shall be applied toward future construction costs.

At the same time the Customer shall provide reasonable evidence that one or more of the following milestones in the development of the Facility, at the Interconnection customer election, has been achieved: (i) the execution of a contract for the supply or transportation of fuel to the Facility; (ii) the execution of a contract for the supply of cooling water to the Facility; (iii) execution of a contract for the engineering for, procurement of major equipment for, or construction of the Facility; (iv) execution of a contract for the sale of electric energy or capacity from the Facility; or (v) application for an air, water, or land use permit.

SPP, the Transmission Owner and the Interconnection Customer shall negotiate concerning any disputed provisions of the Appendices to the draft LGIA for not more than 60 Calendar days after tender of the draft LGIA. If the Interconnection Customer determines that negotiations are at an impasse, it may

request termination of negotiations at any time after tender of the LGIA and request submission of the unexecuted LGIA with FERC or initiate Dispute Resolution procedures. If the Interconnection Customer requests termination of the negotiations, but within the 60 Calendar days thereafter fails to request either the filing of the unexecuted LGIA or Dispute Resolution, it is deemed to have withdrawn its Interconnection Request. Unless otherwise agreed by the Parties, if the Interconnection Customer has not executed the LGIA, requested filing of an unexecuted LGIA or initiated Dispute Resolution procedures within 60 Calendar days of tender of completed draft of the LGIA Appendices, it shall be deemed to have withdrawn its Interconnection Request. The SPP shall provide to the Interconnection Customer a final LGIA within 15 Business days after the completion of the negotiation process.

Transmission service may be arranged for separately under the terms and conditions of SPP's Open Access Transmission Tariff.

Appendix 4.F.1.2 SPP Long Term Firm Transmission Service Guidelines

Guidelines for Entering Long-Term Firm Transmission Service Requests as Part of the SPP Aggregate Transmission Service Study (ATSS)

A request for yearly service should be made in complete yearly increments with the stop date occurring on the same day as the start date one or more years later. *(SPP OATT Business Practice 1.1)*

Example of correct reservation periods:

Requested Start Date	Requested Stop Date
6/1/2007	6/1/2008
6/1/2007	6/1/2022
6/2/2008	6/2/2010

Examples of incorrect reservation periods:

Requested Start Date	Requested Stop Date
6/1/2007	5/31/2008
7/1/2007	6/1/2022
6/1/2007	6/2/2009

All reservations with requested service periods in violation of the SPP OATT Business Practices will be refused.

Requests should be entered according to the aggregate study schedule. There are three open windows during a twelve month period for the aggregate study. At the close of the open window, SPP has 120 days to complete that aggregate study. *(Attachment Z of the SPP OATT)* Therefore, a yearly request entered during the open window of the next aggregate study can not start prior to four months from the close of the open window.

Aggregate study schedule:

Aggregate Study	Open Window Start Date	Open Window Close Date	Earliest Start Date of Requested Service
AG3-2006	6/1/2006	9/30/2006	2/1/2007
AG1-2007	10/1/2006	1/31/2007	6/1/2007
AG2-2007	2/1/2007	5/31/2007	10/1/2007
AG3-2007	6/1/2007	9/30/2007	2/1/2008
AG1-2008	10/1/2007	1/31/2008	6/1/2008
AG2-2008	2/1/2008	5/31/2008	10/1/2008

Any reservation with a requested start date less than the required completion date of the current ATSS will be refused.

If entering a unidirectional DC Tie request, the reservation should show the true source or sink of the request. Comments showing the direction of flow must also be shown in the Customer Comments area of the request so that all customers may identify the direction of flow. *(SPP OATT Business Practice 1.11)*
Example: Service into ERCOT across the EROCTE tie
POR = ERCOTE
POD = ERCOTE
Source = ERCOTE-SPP
Sink = EROCTE

Example: Service into WECC across the BLKW tie
POR = BLKW
POD = BLKW
Source = BLKW -SPP
Sink = BLKW

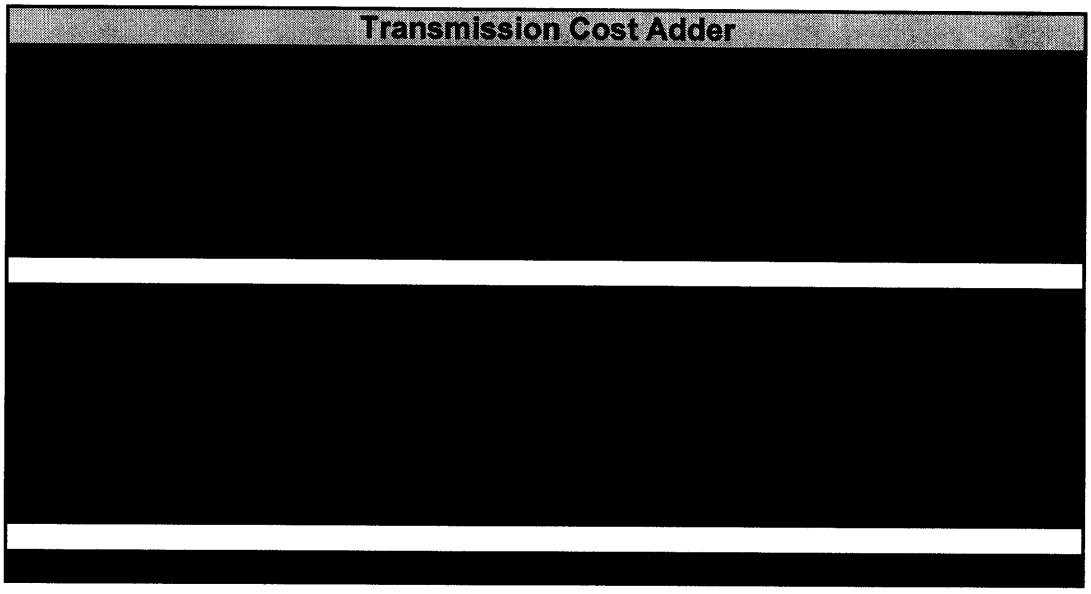
Also, when entering a request for service to or from a DC Tie that is currently at 0 ATC, please identify in the comments whether the request is for competition with existing transmission customers or an expansion of the tie.

When entering a request for transmission service, please ensure that the Source and/or Sink is valid for the POR and/or POD requested. *(SPP OATT Business Practices 2.3 and 2.4)* The transmission request will be refused if it is determined that the requested Source and/or Sink is invalid.

The results of the Aggregate Transmission Service Study (ATSS) may determine that the requested date of service will be deferred to start on a later date. If this is the case, the requested stop date of service will also be deferred to a later year in order to maintain the requested number of years. If the service being requested has a contract end date and should not be deferred past the end date requested in the Oasis Reservation, please document this in the comments section on the OASIS reservation.

If entering a Network Service Request, a new or updated Network Integration Transmission Service (NITS) application is due for each request at the same time the Aggregate System Impact Study Agreement (ASISA) is executed. This ensures that the service is being studied accurately and is needed in order to begin the aggregate study at end of the 15 day ASISA execution window.

Appendix 4.F.2 Transmission Cost Calculation ** Highly Confidential **



HC