NOTICE OF CHANGE

This version contains changes to the following topics:

- **Revised Attachment V, to the GIP and GIA – effective March 2015.**
- **Changes in PSS®E version requirements.**

Guidelines for Generation Interconnection Requests to SPP's Transmission System

(Revised 9/2/2015)

1. Application

To make a Generation Interconnection Request, the applicant shall complete the "Interconnection Request" (Appendix 1 and Attachment A to GIP) 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) The specific interconnection queue the Interconnection Customer intends to enter. The choices are
    - Interconnection Feasibility Study (FCS) queue
    - Preliminary Interconnection System Impact Study (PISIS) queue
    - Definitive Interconnection System Impact Study (DISIS) queue

9) To enter the PISIS or DISIS queue, Interconnection Customer shall provide evidence of ownership in or right to acquire the site of the proposed plant.

- To demonstrate full site control, the amount of land under control shall be sufficient to site the type of facility that is requested to interconnect. For a wind powered generating facility, the minimum accepted site control (without a wind turbine layout) is 30 acres / MW of wind generation. For a solar powered generating facility, the minimum accepted site control (without a solar array layout) is 6 acres/ MW of solar generation. If the Interconnection Customer provides a reasonable site layout demonstrating it can site the wind generation on less acreage, SPP may accept such demonstration as acceptable site control.

When submitting the generation interconnection application and technical data for any new request, the request must be complete, whole and independent of any previous generation interconnection request. Failure to submit complete information could result in application request not being validated in time for the study window. At no time will SPP rebuild application or data requirements from previous generation interconnection requests on record.

Once received, SPP will review the completed application. The Interconnection Customer's initial $10,000 shall be applied toward the study deposit of the applicable study queue in which application is requested. 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. Following receipt and validation of the Generation Interconnection Request, using Appendix 1 and Attachment A to GIP, the SPP will send the appropriate study agreement (FCS, PISIS, or DISIS) to the Interconnection Customer for execution. Please note – 'validation' of the application does not constitute a "compatible" model set for the performance of studies. All modeling files provided pursuant to any Generation Interconnection application is subject to a "compatibility" test with **PSS®e version 32.2 & 33** power flow software. Failure to provide a compatible model will result in a Cure Deficiency notice. Failure to resolve the deficiency will result in the Generation Interconnection request being withdrawn for the Queue and loss of Queue position.

The Interconnection Customer will have fifteen days to return the study agreement along with the additional information listed below:

- Interconnection Feasibility Study Queue (FCS)
    - Feasibility Study Agreement
    - Deposit of $10,000 for generation greater than 2MW

Following receipt of the selected study agreement, the Interconnection Customer will have **the lesser of a) thirty days or b) end of the open season window** (as discussed in Section 3); to return the study agreement along with the additional information listed below:

- Preliminary Interconnection System Impact Study Queue (PISIS)
    - PISIS Agreement
    - Deposit of:
        - $10,000 for generation less than or equal to 2 MW
        - $25,000 for generation greater than 2 MW and less or equal to 20 MW
        - $40,000 for generation greater than 20 MW and less than 100 MW
        - $60,000 for generation greater than or equal to 100 MW and less than 800 MW
        - $90,000 for generation greater than or equal to 800 MW
    - Technical Data
        - One-Line Diagram
        - Facility Data
        - Wind Turbine PSS®E model **in version 32.2 & 33** (if wind turbine)
        - Wind Farm data required in Appendix 7 of the LGIP
        - Solar Inverter PSS®E model in **version 32.2 & 33**
        - Solar array data

- Definitive Interconnection System Impact Study Queue (DISIS)
    - DISIS Agreement
    - Deposit of:
        - $15,000 for generation less than or equal to 2 MW
        - $25,000 for generation greater than 2 MW and less or equal to 20 MW
        - $40,000 for generation greater than 20 MW and less than 75 MW
        - $80,000 for generation greater than or equal to 75 MW
        - Definitive Point of Interconnection (cannot be changed)
        - Definitive plant size (MW) (cannot be changed)
        - Wind Turbine PSS®E model **in version 32.2 & 33** (if wind turbine)
        - Wind Farm data required in Appendix 7 of the LGIP

- Solar Inverter PSS®E model in **version 32.2 & 33**
- Solar array data
- Security equal to $1000/MW of the plant size (refundable at commercial operation or if GIA is not executed by Interconnection Customer); or

All study deposit payments may be in the form of check or wire transfers, and must be submitted concurrent with any required application or agreement. Contact us for the ABA/Bank Routing information if you choose to wire transfer the deposit funds. For security payment, a Letter of Credit that meets the SPP Credit Policy in Attachment X of the Tariff may also be submitted. Additionally, all Generation Interconnection request must submit both a current and complete IRS W-9 Form and an SPP Study Deposit Refund and Disposition Form.

Generator Interconnection Customers that wish to obtain transmission service 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 navigating at the tool bar to "Engineering" > "Generation Interconnection" > and then selecting the specific hyperlinks to the GIP or other sections. Any questions regarding Generation Interconnection requests can be addressed to:

Charles Hendrix Manager, Generation Interconnection Studies 501-614-3546 chendrix@spp.org	Or	Christi Pinkerton Planning Analyst II Engineering Support 501-614-3336 cpinkerton@spp.org	Or	Brad Finkbeiner Sr. Engineering Analyst, Engineering Finance & Administration 501-688-1657 bfinkbeiner@spp.org

2. Queue Priority

DISIS queue positions have queue priority over PISIS queue positions. PISIS queue positions have priority over Feasibility Study queue positions. All current study generator interconnection request queue positions within each study are equal to each other in queue priority.

Queue Positions in the Interconnection Facilities Study (IFS) have higher priority than requests in the DISIS, PISIS, or Feasibility Studies. When an Interconnection Request reaches the Interconnection Facilities Study Queue, its priority is lower than Interconnection Requests that previously entered the Interconnection Facilities Study Queue and its priority is higher than Interconnection Requests that enter the Interconnection Facilities Study Queue in later cycles.

a) Initial Queue Position

When an Interconnection Request is submitted, the request is given an Initial Queue Position. The Initial Queue Position is an identifier for the Interconnection Request but does not assign any priority to the request.
This Initial Queue Position will be identified as follows:

GEN-20YY-XXX, where

- YY is the year the Generator Interconnection Request was accepted
- XXX identifies the specific request within the year of submission

The Interconnection Request will keep its Initial Queue Position number throughout the Feasibility, PISIS, and DISIS phases of the GIP.

b) Interconnection Facilities Study (IFS) Queue Position

When an Interconnection Request completes all requirements to enter the Interconnection Facilities Study Queue, it will receive an Interconnection Queue Position. The Interconnection Queue Position assigns a queue priority of the Interconnection Request relative to all other requests in the Interconnection Facilities Study Queue. The Interconnection Queue Position has a higher priority than any request within the Feasibility, PISIS, or DISIS Queues.

This Interconnection Facilities Study (IFS) Queue Position will be identified as follows:

IFS-20YY-00X-ZZZ, where

- YY-00X is the year and DISIS study in which the Generator Interconnection Request was studied prior to entering the Interconnection Facilities Study Queue
- ZZZ identifies the specific request within the DISIS study

3. Clustering Open Seasons

The most up-to-date start and closing times for study windows (open seasons) is posted on the GI Webpage under the "GI Study Windows - Open and Close Dates" link on the right-hand side of the webpage.

There are two scheduled study windows; one for the open and close of the Interconnection Feasibility Cluster Study (FCS) and another for the Preliminary (PISIS) or Definitive Interconnection System Impact Study (DISIS).

An FCS is conducted every ninety (90) days with a study posted no later than ninety (90) days after its commencement. The PISIS and DISIS are conducted every one-hundred-eighty (180) days. The DISIS study will be posted one-hundred-twenty (120) days after its commencement. The PISIS study will be posted one-hundred-fifty (150) days after its commencement. The following tables show the typical study timelines.

TABLE 1: TYPICAL FEASIBILITY STUDY WINDOWS AND POSTINGS

Study	Open Date	Close Date	Posting By Date
FCS-20YY-001	January 1	March 31	May 31
FCS-20YY-002	April 1	June 30	August 31
FCS-20YY-003	July 1	September 30	November 30
FCS-20YY-004	October 1	December 31	February 28

YY – YEAR OF STUDY WINDOW CLOSING

TABLE 2: TYPICAL PISIS & DISIS STUDY WINDOWS AND POSTINGS

Study	Open Date	Close Date	Posting By Date
DISIS-20YY-001 PISIS-20YY-001	October 1 (YY – 1)	March 31	July 31 August 31
DISIS-20YY-002 PISIS-20YY-002	April 1	September 30	January 31 (YY + 1) February 28 (YY + 1)

YY – YEAR OF STUDY WINDOW CLOSING

4. Types of Interconnection Service

4.1 Energy Resource Interconnection Service (ERIS)

Energy Resource Interconnection Service allows Interconnection Customer to connect the Generating Facility to the Transmission System and be eligible to deliver the Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. Energy Resource Interconnection Service does not in and of itself convey any right to deliver electricity to any specific customer or Point of Delivery.

ERIS is the default and required method of interconnection service for any GIR submission. When choosing ERIS, consider that the analysis for this service will identify all significantly affected facilities identified as impacting the i) short-circuit/fault duty, ii) under- or over-voltage violations, iii) dynamic stability angular deviations, and/or iv) having a 19.5% or higher distribution factor on thermally overloaded transmission facilities under contingency or having a 3% or higher distribution factor on thermally overloaded transmission facilities for system intact conditions. This is discussed more in Section 7.1.

4.2 Network Resource Interconnection Service (NRIS)

Network Resource Interconnection Service allows an Interconnection Customer's Generating Facility to be designated as a Network Resource, up to the Generating Facility's full output, on the same basis as existing Network Resources interconnected to Transmission Provider's Transmission System, and to be studied as a Network Resource on the assumption that such a designation will occur. However, Network Resource Interconnection Service in and of itself does not convey any right to deliver electricity to any specific customer or Point of Delivery.

NRIS is an additional optional method of interconnection service for any GIR submission. When choosing NRIS, consider that the analysis for this service will identify all significantly affected facilities identified as impacting the i) short-circuit/fault duty, ii) under- or over-voltage violations, iii) dynamic stability angular deviations, and/or iv) having a 3.0% or higher distribution factor on thermally overloaded transmission facilities under a base case and/or contingency. Although NRIS may be requested, all ERIS upgrades are a subset of requirements for any NRIS Interconnection Request. This is discussed more in Section 7.1.

5. 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 a linear power flow analysis of the more probable contingencies within the Transmission Owner's control area and key adjacent areas. The feasibility study does not include full AC power flow analysis, short circuit or stability studies. The generator will be modeled at the location and during the time period specified in the Feasibility Study Agreement.

Feasibility Study Methodology

A power flow analysis is conducted with all requests in the IFS and DISIS queue that were requested in the previous open season window. The results of load flow analysis include power flow magnitudes under probable contingency conditions. The results of the load flow study will be used to identify

equipment overloads. If an equipment overload is determined to be impacted by the interconnection request, a cost allocation of the mitigation will be assigned to the interconnection request that will be shared by other requests in the study that also impact the facility. The study shall be conducted using MUST.

SPP shall make reasonable efforts to complete the Feasibility Study within 90 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.

6. Preliminary Interconnection System Impact Study

After completion of the Feasibility Study, SPP will send to the customer a Preliminary 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 prepayment for the Preliminary Interconnection System Impact Study. The remainder of the prepayment is refundable to the customer at the end of the process based on difference of the prepayment and the customer's cost responsibility of the study costs. If the agreement is not returned within 30 calendar days, the Customer's request shall be deemed withdrawn.

The **Preliminary Interconnection System Impact Study** consists of an AC power flow analysis and Transient Stability Study analysis of the Generation Interconnection Request. A power factor analysis will also be conducted for wind generating plants to determine whether such plants shall supply additional reactive power. The SPP shall make reasonable efforts to complete the System Impact within 150 calendar days after the close of the open season window. Studies may be performed either by SPP personnel, Transmission Owner personnel, or external contractors.

6.1 Preliminary Interconnection System Impact Study Methodology

A power flow analysis is conducted with all requests in the PISIS and DISIS queue that were requested in the previous open season window. 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. If an equipment overload is determined to be impacted by the interconnection request, a cost allocation of the mitigation will be assigned to the interconnection request that will be shared by other requests in the study that also impact the facility. The study shall be conducted using both MUST and the ACCC function of PSS®E .

A transient stability analysis will be performed to determine generator unit response due to a fault on the system and unit outages.

The stability analysis will include new transmission reinforcements that were determined to be necessary by the power flow analysis.

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.

Modeling, analysis, constraint identification, and cost allocation are performed identical to the Definitive Interconnection System Impact Study (DISIS) procedure in Section 7.1.

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

*All modeling data must be compatible with **PSS®e version 32.2 & 33**. It is incumbent upon the Generation Interconnection Customer to ensure that all modeling files are compatible with **PSS®e version 32.2 & 33**, as a standalone model and the collective product models combined. Failure to provide **PSS®e version 32.2 & 33** compatible models will result in a Cure Deficiency and may require SPP to withdraw the request from the Queue.

SPP shall make reasonable efforts to complete the Impact Study within 150 calendar days after the close of the window. 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.

7. Definitive Interconnection System Impact Study

After completion of the Preliminary Interconnection System Impact Study, SPP will send to the customer a Definitive 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 prepayment for the Definitive Interconnection System Impact Study. The remainder of the prepayment is refundable to the customer at the end of the process based on difference of the prepayment and the customer's cost responsibility of the study costs. If the agreement is not returned within 30 calendar days, the Customer's request shall be deemed withdrawn.

If the Interconnection Customer does not participate in the PISIS, the information for the Definitive Interconnection System Impact Study must be provided no later than the close of the window for accepting Interconnection Requests (see Section 3).

The **Definitive Interconnection System Impact Study** consists of an AC power flow analysis and Transient Stability Study analysis of the Generation Interconnection Request. A power factor analysis will also be conducted for wind generating plants to determine whether such plants shall supply additional reactive power. The SPP shall make reasonable efforts to complete the System Impact within 120 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 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

*All modeling data must be compatible with **PSS®e version 32.2 & 33**. It is incumbent upon the Generation Interconnection Customer to ensure that all modeling files are compatible with **PSS®e version 32.2 & 33**, as a standalone model and the collective product models combined. Failure to provide **PSS®e version 32.2 & 33** compatible models will result in a Cure Deficiency and may require SPP to withdraw the request from the Queue.

7.1 Definitive Interconnection System Impact Study Methodology

A power flow and transient stability analysis is conducted under two scenarios; 1) Cluster Scenario - with all requests in the DISIS queue that were requested in the previous open season window and all higher queued Interconnection Requests; and 2) Stand Alone Scenario – with only Interconnection Requests that have advanced to the Interconnection Facilities Study.

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. If an equipment overload is determined to be impacted by the interconnection request, a cost allocation of the mitigation will be assigned to the interconnection request that will be shared by other requests in the study that also impact the facility. The study shall be conducted using both MUST and the ACCC function of PSS®E .

A transient stability analysis will be performed to determine generator unit response due to a fault on the system and unit outages.

The stability analysis will include new transmission reinforcements that were determined to be necessary by the power flow analysis.

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.

7.1.1 Modeling

Regional Groupings - The Interconnection Requests in each DISIS are grouped together into regional groups based on geographical and electrical impacts. These groupings of the Interconnection Requests are shown in Appendix C of each DISIS report.

To determine interconnection impacts, regional generation dispatch scenarios of the light load models as described below are developed to accommodate the regional groupings.

Power Flow - For Energy Resource Interconnection Service (ERIS), the wind generating plants are dispatched at 100% nameplate of maximum generation. The other wind generating plants in the remote groups at 20% nameplate of maximum generation. The projects are dispatched as Energy Resources across the SPP footprint. The existing on-line generation is backed down across the SPP footprint on a load ratio basis in accordance with dispatch orders presented by individual Transmission Owners. This method of dispatching by regional groups allows for the identification of network constraints that are common to the regional groupings that could then in turn have the mitigating upgrade cost allocated throughout the entire cluster.

All wind generators that request Network Resource Interconnection Service (NRIS) are dispatched in an additional analysis into the balancing authority of the interconnecting Transmission Owner at 100% nameplate in the light load and summer and winter peak seasons.

Other sensitivity analyses are also performed with all interconnection requests in each group being dispatched at 100% nameplate.

Peaking and other thermal units are not dispatched in the light load season. To study peaking and other thermal unit's impacts, the summer and winter peak seasonal models are used and peaking units are modeled at 100% of the nameplate rating. Each interconnection request was also modeled separately at 100% nameplate for certain analyses.

Dynamic Stability- For each regional group, all interconnection requests are studied at 100% nameplate output while the other groups were dispatched at 20% output for wind requests and 100% output for peaking and thermal requests. The on-line generation is scaled down on a load ratio basis for each Transmission Owner area.

7.1.2 Power Flow Analysis

For all power flow models developed, the ACCC function of PSS®E is used to simulate single element, breaker-to-breaker, and multi-element outages in all power flow areas of the SPP footprint, as well as other power flow areas external to SPP. The standard SPP contingency and monitored files are used to determine which outages to simulate. Constraints are then identified as stated Section 7.1.4.

7.1.3 Dynamic Stability Analysis

For all stability models developed, a transient stability analysis will be performed to determine generator unit response due to a fault on the system and unit outages. The stability analysis will include new transmission reinforcements that were determined to be necessary by the power flow analysis.

The following types of outages will be simulated in the Dynamic Stability Analysis.

- Single phase and three phase transmission line faults with and without reclosure.
- Single phase and three phase transformer faults without reclosure.
- Single phase faults with breaker failure and delayed clearing.
- Prior outages – With one transmission element near the Point of Interconnection out of service, faults will be simulated to determine if generator curtailment is required.

The transient stability analysis will determine:

- Unit stability during faults
- Voltage levels, frequency levels, and frequency deviation at the point of interconnection
- Synchronous generator rotor oscillations, damping, and real and reactive power outputs
- For wind generators, a low voltage ride through analysis (LVRT) will be performed in accordance with FERC Order #661A
- 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.

7.1.4 Constraint Identification

An impact analysis is performed using PSS®MUST to determine the Distribution Factor (DF) of each of the Interconnection Requests upon the constraint (overload). For Energy Resource Interconnection Service (ERIS) constraints are screened to determine which of the generation interconnection requests had at least a 20% DF upon the constraint for outage based constraints and 3% DF for constraints for system intact conditions. Constraints that measured these criteria from at least one interconnection request were considered for transmission reinforcement under ERIS. In addition, stability issues are also considered for transmission reinforcement under ERIS. Interconnection Requests that have requested Network Resource Interconnection Service (NRIS) are additionally studied in the NRIS analysis to determine if any constraint measured at least a 3% DF. If so, these constraints were also considered for mitigation under NRIS.

Constraints that required transmission reinforcement are generally listed in each DISIS report in Appendix G for power flow upgrades. For stability upgrades, the reinforcements are discussed in the stability section of the DISIS report.

7.1.5 Determination of Cost Allocation for Network Upgrades

Cost allocation of Network Upgrades for wind generation interconnection requests are determined using the light load model. Cost allocation of Network Upgrades of peaking units was determined using the summer peak model. A PSS®MUST sensitivity analysis is performed to determine the Distribution Factors (DF), a distribution factor with no contingency that each generation interconnection request had on each new upgrade. The impact each generation interconnection request had on each upgrade project was weighted by the size of each request. Finally the costs due by each request for a particular project were then determined by allocating the portion of each request's impact over the impact of all affecting requests.

For example, assume that there are three Generation Interconnection requests, X, Y, and Z that are responsible for the costs of Upgrade Project '1'. Given that their respective PTDF for the project have been determined, the cost allocation for Generation Interconnection request 'X' for Upgrade Project 1 is found by the following set of steps and formulas:

1. Determine an Impact Factor on a given project for all responsible GI requests:

Request X Impact Factor on Upgrade Project 1	=	PTDF(%)(X) * MW(X) =	X1
Request Y Impact Factor on Upgrade Project 1	=	PTDF(%)(Y) * MW(Y) =	Y1
Request Z Impact Factor on Upgrade Project 1	=	PTDF(%)(Z) * MW(Z) =	Z1

2. Determine each request's Allocation of Cost for that particular project:

Request X's Project 1
Cost Allocation ($) = $\frac{\text{Network Upgrade Project 1 Cost(\$)} * X1}{X1 + Y1 + Z1}$

3. Repeat previous for each responsible GI request for each Project

The cost allocation of each needed Network Upgrade is determined by the size of each request and its impact on the given project. This allows for the most efficient and reasonable mechanism for sharing the costs of upgrades.

Costs assigned to each Interconnection Request are generally listed in Appendix E of each DISIS report.

7.1.6 Facilities Analysis

A Facility Study grade cost estimate will be provided through the Transmission Owner whose facilities will be impacted. The Facilities Analysis shall only consider the substation at the Point of Interconnection. Any other upgrades identified through the Impact Study will have a Facilities Analysis performed during the Interconnection Facilities Study portion of the process.

7.2 Definitive Interconnection System Impact Study Completion

SPP shall make reasonable efforts to complete the Impact Study within 120 calendar days after the close of the window. 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.

8. Interconnection Facilities Study

Upon completion of the Definitive Interconnection System Impact Study, SPP will send the customer an Interconnection Facilities Study Agreement. The customer shall have 30 calendar days to review, execute and return the Facility Study Agreement to SPP. At that time the customer shall provide the following milestones within 30 calendar days or the Customer's request shall be deemed withdrawn.

- Financial Security equal to $3,000/MW of the size of the Interconnection Request.

Upon completion of these steps, the Interconnection Request shall be issued an Interconnection Queue Position as discussed in Section 2. The Interconnection Request will then take priority over other Interconnection Requests that have not been issued an Interconnection Queue Position.

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. 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 90 Calendar days.

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.

9. Re-Study

If Re-Study of the Interconnection Customer's request for interconnection is required due to either a higher queued project dropping out of the queue or a modification of a higher queued project, or more than one Interconnection Request moving forward into the Interconnection Facilities Study, 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.

10. Generator Interconnection Agreement

Upon completion of the Facility Study, SPP shall send the Customer, as soon as practical, a Generator Interconnection Agreement (GIA) 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 GIA 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; (v) statement signed by an officer or authorized agent of the Interconnection Customer attesting the Generating Facility is included in an applicable state resource plan; (vi) other information that the Transmission Provider deems to be reasonable evidence that the Generating Facility will qualify as a Designated Resource; or (vii) application for an air, water, or land use permit.

Within 30 days after the Effective Date of the GIA, the Interconnection Customer is required to make an Initial Payment to the Transmission Provider in the amount of the greater of a) 20% of the cost of Network Upgrades and Interconnection Facilities or b) $4,000/MW of the size of the Interconnection Request.

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

the unexecuted GIA 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 GIA or initiate 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 GIA, requested filing of an unexecuted GIA or initiated Dispute Resolution procedures within 60 Calendar days of tender of completed draft of the GIA Appendices, it shall be deemed to have withdrawn its Interconnection Request. The SPP shall provide to the Interconnection Customer a final GIA 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.

11. Study Deposit Disposition

It is the intended business practice of the Southwest Power Pool to commence study deposit reconciliations no sooner than 90 days after the final study phase or terminal point in the interconnection request. This includes cluster studies; re-study iterations of cluster studies, individual re-studies, interim studies and facilities studies, withdraw or execution of the Generation Interconnection Agreement.

If a generation interconnection request; within a clustered study - drops out - resulting in a restudy of any other generation interconnection request the reconciliation will not commence until 90 days after the subsequent study results have been posted.

Refer to SPP Generation Interconnection Procedure Tariff, Attachment V, Section 4.2.5 and Section 8.4(c) for further tariff guidance on study cost allocation methodology.

SPP will provide refund payment via ACH transaction to the authorized project owner that submitted the generation interconnection application, unless an assignment of the project has been made between parties. It is the responsibility of the generation interconnection customer to keep SPP informed of study deposit refund information, including changes in address, contacts, project ownership, banking and routing information.