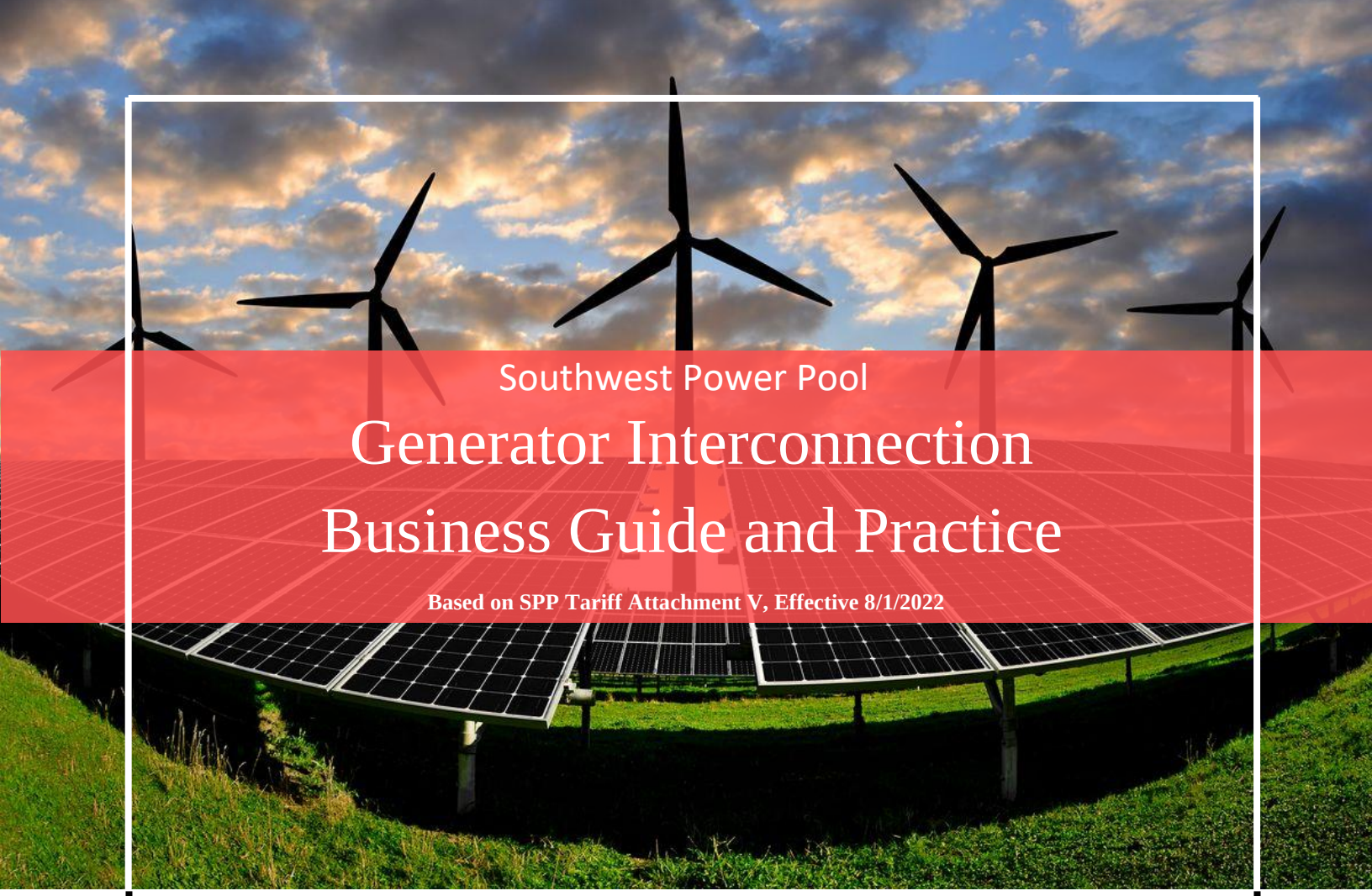

Southwest Power Pool

Generator Interconnection Business Guide and Practice

Based on SPP Tariff Attachment V, Effective 8/1/2022

SPP Southwest Power Pool

Revised 28 February 2024

REVISION HISTORY

DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION
3/8/2022	Brad Finkbeiner	Revised per revised Tariff Attachment V, Effective 15 January 2022, and updated
8/10/2022	Brad Finkbeiner	Revised contact information, removed old references to previous Tariff Attachment V, and other clarifying changes
10/31/2022	Brad Finkbeiner	Updated Staff Contact information and Tariff Services Email address
9/12/2023	Katherine Rogers	Updated links
2/28/2024	Katherine Rogers	Updated tariff references and removed outdated information

CONTENTS

GUIDELINES FOR GENERATOR INTERCONNECTION REQUESTS TO SPP'S TRANSMISSION SYSTEM

NOTE: Effective 15 January 2022, under FERC Order the Revised SPP Tariff Attachment V, Generator Interconnection Procedures was approved and incorporates the Three-Stage study process and several significant additions and deletions from the previous Attachment V, Generator Interconnection Procedures.

Key changes under Revised SPP Tariff Attachment V, Generator Interconnection Procedures:

- Notification of non-refundable study deposits, per Section 4.2.2, 8.2(b), 8.5.1, 8.5.2 and 13.3
- Tariff Transition Procedures on Generation Interconnection Requests impacted by the revised SPP Tariff Attachment V, including dates and timing of notifications, per Section 5.1
- Suspension of further DISIS Cluster Study Windows, per Section 5.1.3
- Site Control requirement for Gen Tie Line Right of Way (ROW) or 'in lieu of' Financial Securities, per Section 8.2.(a).2
- Increase in Financial Security Deposits, per Section 8.2(f) and 8.5.1
- Reduction in DISIS Study timeline, per Section 8.5 and Interconnection Facilities Study timeline, per Section 8.11
- Significant revisions to treatment of Financial Securities and Refund Eligibility, per Section 8.14
- Timeline and Negotiation changes under the Generation Interconnection Agreement process, per Section 11
- Additional changes made to the Appendix 3, Attachment A and B forms that include additional Study Deposits for Generating Facility Replacement Requests, Site Control requirements for Gen Tie Lines, Inverter Based Resource Data for Phase-Locked Loop (PLL) parameter and Electromagnetic Transient (EMT) Models. (This data is not required upon initial submission of the Generator Interconnection Request. Interconnection Customer will be notified when that data is required.)

This guideline is primarily based on Federal Energy Regulatory Commission (FERC) Tariff Attachment V Generator Interconnection Procedures (GIP) and current SPP business process and

practices for the administration of Generator Interconnection Request Queue Studies. The Southwest Power Pool (SPP) Generator Interconnection Request (GIR) process is reduced to just a single application stage that encompasses both Validation and Study Acceptance.

Under the current SPP Tariff Attachment V, submitting a GIR requires full completion of Appendix 3, and Attachment A, B and C; along with all cash study deposits and required security deposits. Reasonable demonstration of Site Control, including the new requirements for the Gen Tie Line Right of Way (ROW) must include a completed and signed Attestation for Demonstration of Site Control form. Additional information may be required before the GIR Application is reviewed and validated.

Reference SPP Tariff Attachment V, Generator Interconnection Procedure, Section 8 "Definitive Planning Phase" for more detail.

Upon receipt and validation of all requirements per Section 8.2 of the GIP, SPP will notify the Customer of the GI Study Queue Number (GEN-20YY-XXX) and it's assignment to the DISIS Queue Cluster.

The following information is provided to better clarify the Generator Interconnection process.

1 GENERATOR INTERCONNECTION REQUEST

1.1 APPLICATION PROCESS

Submitting a Generation Interconnection Request under the current SPP Tariff Attachment V requires full completion of Generator Interconnection Study Agreement Appendix 3 with Attachments A, B and C; all cash study deposits and required security deposits; reasonable demonstration of Site Control, including Gen Tie Line ROW, and signed Attestation for Demonstration of Site Control form. Additional information may be required before the GIR Application is reviewed and validated.

Generation Interconnection Requests can be submitted via Request Management System (RMS) https://spprms.issuetrak.com/login.asp, emailed to GIStudies@spp.org, or through the SPP Online Web Portal (**SmartQ**), located at https://smartq.spp.org/login.

The **SmartQ** Tutorial for Generator Interconnection Requests is located at: https://opsportal.spp.org/documents/studies/SmartQTutorial.pdf

Required information for a valid request is listed below. Blank fields can delay the review and validation and possibly result in withdrawal of the submitted application. This summary does not replace any required information listed in the Generator Interconnection Study Agreement Appendix 3, and Attachment A, B or C; nor supersedes additional information that may be requested at any future date to complete the study.

Attachment A to Appendix 3 includes, but is not limited to:

- Type of Generating Facility for which the service is requested.

- Type of Interconnection Service requested (ERIS or NRIS).
- Location of the Generating Facility site (address, GPS coordinates).
- Definitive Point of Interconnection (address, GPS coordinates).
- Aggregate generator nameplate rated capacity (in MW) of the request, including Summer and Winter output ratings.
- Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity).
- One-Line Diagram illustrating the POI, transmission lead(s), main project transformer(s), collector system cable(s), generator step-up transformer(s), and generating unit(s).
- Proposed Commercial Operation Date.
- Contact information for the Interconnection Customer.
- Geographical map indicating the proposed Point of Interconnection (POI) and Generating Facility.
- Fuel type.
- Primary frequency response operating range (energy storage resources only).
- For request for Generating Facility Replacement, the planned or actual date of cessation of operation of the Existing Generating Facility: (month/day/year).
- Required cash Study Deposits and Security Deposits
    - Less than 2 MW - $25,000 cash Study Deposit
    - Greater than 2 MW but less than or equal to 20 MW - $35,000 cash Study Deposits
    - Greater than 20 MW but less than or equal to 75 MW - $50,000 cash Study Deposits
    - Greater than 75 MW - $90,000 cash Study Deposits

For Generating Facility Replacement Requests Only

- $60,000 cash Study Deposits

Financial Securities may be in the form of cash or Letter of Credit

- Security Deposit of $4,000 per MW (initial Financial Security One deposit cash or equivalent)

- Evidence of ownership in or right to acquire the site of the proposed plant, including the Gen Tie Line ROW, referred to as Site Control. SPP is unable to accept Letters of Intent or Memorandums of Understanding for negotiation purposes. Demonstration of actual control over real property must be provided:
    - Wind: For capacity of the Generating Facility for a wind-powered generating facility, the recommended minimum accepted site control is 30 acres/MW of wind generation or Manufacturers Specifications

- Solar: For a solar-powered generating facility, the recommended minimum accepted site control is 6 acres/MW of solar generation or Manufacturers Specifications
- Storage: For a storage generating facility, the recommended minimum accepted site control (without a detailed layout) is 1 acre/MW of generation or Manufacturers Specifications
- Conventional: For a conventional generating facility, the recommended minimum accepted site control (without a detailed layout) is 40 acres or site layout.
- If the Customer provides a reasonable site layout demonstrating it can site the generating facility on less acreage, SPP may accept such demonstration as acceptable site control, per Section 8.2.a in the GIP.
- Additional detail regarding SPP Site Control Criteria may be found here:

  https://opsportal.spp.org/documents/studies/SPP%20Site%20Control%20Criteria.pdf
- All site control submitted must be accompanied by an Attestation for Demonstration of Site Control form. This form must be completed by the Interconnection Customer. You can find the document here: http://opsportal.spp.org/documents/studies/AttestationStatementForSiteControl.pdf

- Under the revised SPP Tariff Attachment V, Effective 15 January 2022, additional Site Control requirements have been added that include the Gen Tie Line ROW, and the option of providing 'in lieu of' Financial Securities:
  - Site Control for at least fifty percent (50%) of the Generating Facility's high voltage tie line to Point of Interconnection; **OR**
  - Additional financial security in the amount of $80,000 per the entire line right-of-way mile.

Attachment B to Appendix B includes, but is not limited to:

- Study Assumptions involving specific location of the Point of Interconnection.
- Interconnection facilities tie line information.
- Generating Facility Data, including generator Unit Ratings; Combined Turbine-Generator-Exciter Inertia Data; Reactance Data (PU – rated KVA); Field Time Constant Data; Armature Time Constant Data.
- MW Capability and Plant Configuration Generating Facility Data, including Armature Winding Resistance Data (PU); performance Curves; Generator Step-Up Transformer Data and Ratings; Main Generator Step-Up Transformer Data Ratings; Excitation System Data; Governor System Data; Multiple-Unit Generating Facilities; Induction Generators.
- Charging parameters of energy storage resources, that include maximum rate of charge, and leading / lagging Charging Power Factor.
- Inverter-Based Resource Data for Phase-Locked Loop (PLL) controller parameters and Electromagnetic Transient (EMT) Model data. This data is not required upon initial submission of the Generator Interconnection Request. Interconnection Customer will be notified when that data is required.

Attachment C to Appendix B includes, but is not limited to:

- Interconnection Facilities Study Data, including location plan and simplified one-line diagram; metering configuration; Auxiliary Power; Transfer Bus information: Control System Scheme and Protocol; Bus and Line Length; Site Map, Towers, Easement; and key project commencement dates
- Designation of the Transmission Owner's service area to the Generating Facility
- Proposed Construction Date, Feedback Power date for the transformer, Generation Testing and Commercial Operation Date

When submitting the generator interconnection application and technical data for any new request, the application must be complete, whole, and independent of any previous GIR. SPP is unable to complete or make corrections or edits any documentation for the Interconnection Customer. Failure to submit complete information could result in the application request not being validated in time for the study window. At no time will SPP rebuild application or data requirements from previous GIRs on record.

Once received, SPP will acknowledge receipt of the Interconnection Request within five (5) Business Days. SPP will review the completed application during the thirty (30) Calendar Day GIR Application Review Period.

Please note that validation of the application does not constitute a "compatible" model set for the performance of studies. All modeling files provided pursuant to any generator interconnection application are subject to a "compatibility" test with **PSS®E version 34.8 and 35.3** power flow software. Failure to provide a compatible model will result in a Cure Deficiency notification. Interconnection Customer shall have fifteen (15) Business Days from the date of the notice to cure any deficiencies, which may extend beyond the GIR Application Review Period. Failure to resolve the deficiency will result in the GIR's withdrawal from the queue and loss of queue position.

1.2 GENERATOR INTERCONNECTION STUDY AGREEMENT

1.2.1 DEFINITIVE INTERCONNECTION SYSTEM IMPACT STUDY QUEUE (DISIS)

Following validation and study acceptance of your Generation Interconnection Request, the Definitive Interconnection System Impact Study will be conducted in two phases, as per Section 8.4.2 of Attachment V.

- DISIS Phase One – consists of a power flow analysis and calculation of the short-circuit ratio.
- DISIS Phase Two – consists of a short circuit analysis, Short Circuit Ration and Critical Clearing Time ("SCRCCT") screening, stability analysis, taking into accounting any requests withdrawn after the above DISIS Phase One.
- DISIS Study results will provide list of required facilities using non-binding good faith estimates of cost (+/- 30%)
- The DISIS Study will identify Limited Operation potential, per Section 8.4.3
- Preliminary Facilities Analysis will be included, during the DISIS Phase One

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. For a security payment, cash via check or wire transfer is acceptable, or a Letter of Credit that meets the SPP Credit Policy in Attachment X of the Tariff may also be submitted. Prior to release of any cash study deposits or financial securities, all GIRs must provide both a current and completed IRS W-9 Form and an SPP Study Deposit Refund and Disposition Form. SPP bank wiring instructions can be provided upon request.

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 (OATT).

SPP's Generator Interconnection Study Agreement and the Interconnection Procedure may be downloaded by visiting www.spp.org and navigating at the tool bar to Engineering > Generation Interconnection > and then selecting the specific hyperlinks to the Generator Interconnection Procedures (GIP) or other sections. Any questions regarding GIRs can be addressed to:

1.3 OVERVIEW OF STUDY DEPOSIT AND SECURITY REQUIREMENTS

All initial applications for Generator Interconnection Requests are required to submit cash Study Deposit and an initial Security Deposit (cash or Letter of Credit (LOC)), along with the forms from Appendix 3 and Attachment A, B and C to Appendix 3.

For additional information, please refer to the GI Finances document: https://opsportal.spp.org/documents/studies/GIFinances%20(1).pdf.

Type of Deposit	Amount	Payment Requirement	Payment Form
GIR Application and DISIS Cluster Study Deposit (with Appendix 3) to enter into **DISIS Phase One Study**	**$25,000**	For generation less than or equal to 2MW	Check or Wire
	$35,000	For generation greater than 2 MW and less than or equal to 20 MW	Check or Wire
	$50,000	For generation greater than 20 MW and less than 75 MW	Check or Wire
	$90,000	For generation greater than or equal to 75 MW	Check or Wire
For Generating Facility Replacement Requests Only	**$60,000**	For All Generating Facility Replacement Requests	Check or Wire
Per Section 8.2(b): Study deposits provided pursuant to this section shall be applied toward any Interconnection Studies applicable to the Interconnection Request. Twenty percent (20%) of the study deposit shall be non-refundable at the start of DISIS Phase One.			
AND			
DISIS Financial Security One	**$4,000 per/MW**	Security Deposit equal to $4,000 per generation requested capacity of the plant	Check, Wire, or Letter of Credit
DP1 (Decision Point 1) - TO PROCEED INTO DISIS PHASE TWO, PRIOR TO THE END OF DP1			
DISIS Financial Security Two	**10% Or $4,000 per/MW**	Equal to the greater of **a)** Ten percent (10%) of the Financial Security Two Cost Factor**, less the amount of Financial Security One that was provided to enter DISIS Phase One, or **b)** $4,000	Check, Wire, or Letter of Credit

		per MW of the requested capacity advancing to DISIS Phase Two. If applicable, "in lieu of" Financial Securities for Gen Tie Site Control equal to $80,000 per ROW mile, for the entire Gen Tie Line Length	
DP2 (Decision Point 2) - TO PROCEED INTO FACILITIES STUDY, PRIOR TO THE END OF DP2			
DISIS Financial Security Three	**20% Less Previous Securities**	Equal to twenty percent (20%) of the total upgrade costs**, less the amount of Financial Security One and Financial Security Two that was provided to enter DISIS Phase One and DISIS Phase Two. If applicable, "in lieu of" Financial Securities for Gen Tie Site Control equal to $80,000 per ROW mile, for the entire Gen Tie Line Length	Check, Wire, or Letter of Credit
INTERCONNECTION FACILTIES STUDY QUEUE, AFTER DECISION POINT TWO HAS ENDED			
Facilities Study Deposits	--	No additional cash Study Deposits are required to enter into the Facilities Study, other than satisfying requirements under Section 8.5.2 and providing the DISIS Financial Security Three (above). However, Transmission Owners may invoice SPP (and Interconnection Customer) for study costs. These costs may be received even after an Interconnection Request has received deposit refunds. Interconnection Customer is responsible for all study costs.	Cash via check or wire
*Security Deposits may be utilized to fund initial Network Upgrades and/or Shared-Network Upgrades. All Financial Securities are subject to Section 8.14 Financial Security Refund Eligibility requirements. ** Upgrade Costs used in security deposit calculations exclude Affected Systems mitigation.			

For information on how to calculate financial securities at decision points, please refer to the Financial Security Calculations document: https://opsportal.spp.org/documents/studies/FinancialSecurityCalculations.pdf.

To complete the entire GIP, the Interconnection Customer must, at a minimum, complete the Application, Validation and Acceptance of the GIR into study; complete the DISIS Study Cluster stages Phase One (60 Calendar Days) and Phase Two (120 Calendar Days after end of Decision Point 1); complete a Facilities Study conducted by the TO; and execute a GIA.

2 QUEUE PRIORITY

All Interconnection Requests within the same DISIS Queue Cluster Window shall have equal priority.

After satisfying the all the requirements of Section 8.9 of the GIP to enter into the Interconnection Facilities Study, an Interconnection Facilities Study Queue (IFS) position will be assigned based on date and time those requirements are met.

2.1 INITIAL QUEUE POSITION

When a GIR is submitted and validated and accepted into the DISIS Study Queue, the request is given an Initial Queue Position. The Initial Queue Position is an identifier for the GIR but does not assign any priority to the request. This Initial Queue Position will be identified as GEN-20YY-XXX, where

- YY is the year the GIR was accepted
- XXX identifies the specific request within the year of submission

The GIR will keep its Initial Queue Position number throughout the DISIS phases of the GIP and beyond into the GIA stage.

3 DISIS OPEN SEASONS

On the Revision Date of the effective Tariff, 15 January 2022, the then-open DISIS Queue Cluster Window (DISIS-2022-001) will remain open until Transmission Provider completes DISIS Phase One for the most recently closed DISIS Queue Cluster Window (DISIS-2021-001) or until the Transmission Provider determines that the DISIS Queue Cluster window should close due to the size (in megawatts) of Interconnection Requests submitted during the DISIS Queue Cluster Window (the "Open Season"). Transmission Provider may choose to extend subsequent DISIS Queue Cluster Windows and create additional Open Seasons until such time as it completes DISIS Phase One of the immediately preceding Cluster Study. Refer to SPP Tariff, Attachment V, Section 5.1.3.

Following the transition period described in Section 5.1.3 of the GIP, each DISIS Queue Cluster Window will be eleven (11) calendar months in duration.

Interconnection Requests received prior to the close of the DISIS Cluster Window will be processed for validation and acceptance, and provisions will be made to cure any deficiencies within fifteen (15) Business Days. Following the close of the DISIS Queue Cluster Window, there shall be one calendar month DISIS Review Period. SPP reserves the option to request and clarify technical information during the DISIS Review Period, and beyond, that follows the close of the DISIS Cluster Window.

For information on projected Cluster Study completion dates, you may refer to this web page located at: http://opsportal.spp.org/documents/studies/sppgistudyupdate_weekly.pdf

4 TYPES OF INTERCONNECTION SERVICE

4.1 ENERGY RESOURCE INTERCONNECTION SERVICE (ERIS)

As defined in Section 1 of the GIP, **Energy Resource Interconnection Service** shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or non-firm capacity of the Transmission System on an as available basis. Energy Resource Interconnection Service in and of itself does not convey transmission service.

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 20% 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 further in Section 7.2.

4.2 NETWORK RESOURCE INTERCONNECTION SERVICE (NRIS)

As defined in Section 1 of the GIP, **Network Resource Interconnection Service** shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Generating Facility with the Transmission System in a manner comparable to that in which the Transmission Owner integrates its generating facilities to serve Native Load Customers as a Network Resource. Network Resource Interconnection Service in and of itself does not convey transmission service.

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 request. This is discussed further in Section 7.2.

5 DISIS MANUAL

5.1 GENERATION INTERCONNECTION DISIS STUDY PROCESS MANUAL

For information regarding the Definitive Interconnection System Impact Study Process and Manual, refer to the DISIS Manual here:
https://opsportal.spp.org/documents/studies/GI%20MANUAL%20BUSINESS%20PRACTICE_7250_20240212.pdf

6 DETERMINATION OF COST ALLOCATION FOR NETWORK UPGRADES

Cost allocation of Network Upgrades for wind GIRs are determined using the spring 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 DF, a distribution factor with no contingency that each GIR had on each new upgrade. The impact each GIR had on each upgrade project was weighted by the size of each request. Finally, the costs due by each request for a particular project are then determined by allocating the portion of each request's impact over the impact of all affecting requests.

For example, assume there are three GIRs: X, Y, and Z, that are responsible for the costs of Upgrade Project 1. Given that their respective power transfer distribution factors (PTDF) for the project

have been determined, the cost allocation for GIR 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:

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

3. Repeat previous for each responsible GIR 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 GIR are generally listed in Appendix E of each DISIS report.

6.1 FACILITIES ANALYSIS

During the DISIS Phase One, SPP shall specify and estimate the cost of transmission facilities at the Point of Interconnection to physically and electrically connect the Generating Facility to the Transmission System. The estimated cost of any Transmission Owner's Interconnection Facilities and Network Upgrades necessary will also be provided. This information will be utilized as part of the Interconnection Facilities Study that follows DISIS Phase Two and Decision Point 2 (DP2).

7 INTERCONNECTION FACILITIES STUDY (IFS)

Prior to the end of DP2, per Section 8.5.2 of the GIP, the Interconnection Customer must provide written intent to either withdraw the request or proceed to the Interconnection Facilities Study (IFS). The Interconnection Customer is required to provide additional financial security deposit (Financial Security Three) equal to twenty percent (20%) of the total upgrade costs allocated, less previously provided Financial Security One and Financial Security Two.

SPP will assign an Interconnection Facilities Study Queue Position based on date and time Interconnection Customer satisfies all the requirements of Section 8.9. The of the Interconnection Queue Position of each Interconnection Request, as determined in Section 4.1.3 of the GIP, will be used to determine the order of performing the Interconnection Facilities Studies and determination of cost responsibility.

In addition to signifying interest in proceeding with the Interconnection Facilities Study, the following may be considered:

- Opportunity to reduce requested capacity per Section 4.4.1 of the GIP
- Provide notification, if needed, to extend Commercial Operation Date
- Pursue Limited Operation, if necessary, per Section 8.7

SPP will coordinate with the Transmission Owner for information and study results to complete the Interconnection Facilities Study within forty-five (45) Calendar Days of receiving the request. SPP will use Reasonable Effort to issue a draft Interconnection Facilities Study report to the Interconnection Customer no later than one hundred sixty (60) Calendar Days after the end of DP2, with a +/- 20% cost estimate in the report. Should it be determined that the required time frame for completing the Interconnection Facilities Study, SPP will notify the Interconnection Customer of an estimated completion date and explanation of why additional time is needed.

Refer to Section 8.11 Interconnection Facilities Study Procedures, of the GIP, for more detailed information.

The IFS consists of two parts, a facility analysis and a short circuit analysis. The facility analysis consists of SPP or TO 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.

Under the Revised Tariff Attachment V, Effective 15 January 2022, Section 8.11.c, the Interconnection Customer will have ten (10) Business Days to review the results, make inquiries to the content, and make decision to withdraw or proceed to the Generation Interconnection Agreement. Within five (5) Business Days of receiving the Interconnection Customers comments or intent to make no comments, SPP will issue the Final Interconnection Facilities Study Report.

Per Section 11.1 of the GIP, SPP will issue a Draft Generator Interconnection Agreement to the Interconnection Customer, with draft appendices within fifteen (15) Calendar Days of providing notification to the Transmission Owner to begin the Interconnection Facilities Study.

8 RE-STUDY

If a 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, or more than one GIR moving forward into the IFS phase, SPP shall notify the Customer in writing. SPP shall make reasonable efforts to complete the re-study within sixty (60) calendar days from the notice. Any cost of re-study shall be borne by the Interconnection Customer. The Customer shall be responsible for prepaying the cost of the re-study.

9 GENERATOR INTERCONNECTION AGREEMENT (GIA)

Within fifteen (15) Calendar Days of SPP providing notification to the Transmission Owner to commence their Interconnection Facilities Study, a draft GIA along with appendices will be provide to the Interconnection Customer. The agreement allows a physical interconnection of the generator to the SPP transmission grid. Other documents may also be required depending on individual circumstances.

SPP, the TO, 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 final Interconnection Facilities Study. If the 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 to FERC or initiate Dispute Resolution procedures. If the 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 GIR. If the Customer has not executed the GIA, requested filing of an unexecuted GIA or initiated Dispute Resolution procedures within sixty (60) calendar days of tender of completed draft of the GIA Appendices, it shall be deemed to have withdrawn its GIR, unless otherwise agreed by the Parties. The SPP shall provide to the Customer a final GIA within ten (10) business days after the completion of the negotiation process.

Within ten (10) business days after receipt of the final GIA, the Customer shall provide SPP reasonable evidence of continued site control or post a $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 Customer's election, has been achieved:

- Execution of a contract for the supply or transportation of fuel to the facility;
- Execution of a contract for the supply of cooling water to the facility;
- Execution of a contract for the engineering for, procurement of major equipment for, or construction of the facility;
- Execution of a contract for the sale of electric energy or capacity from the facility;
- Statement signed by an officer or authorized agent of the Interconnection Customer attesting the generating facility is included in an applicable state resource plan;
- Other information that the Transmission Provider deems to be reasonable evidence that the generating facility will qualify as a Designated Resource; or
- Application for an air, water, or land use permit.

Within 30 days after the Effective Date of the GIA, the 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 GIR.

Transmission service must be arranged for separately under the terms and conditions of SPP's OATT.

For information pertaining to Generator Interconnection Agreements, contact Stacy Brothers @ sbrothers@spp.org .

10 STUDY DEPOSIT DISPOSITION

It is the intended business practice of SPP to commence study deposit reconciliations no sooner than 90 days after it reaches a terminal point in the GIR. A terminal point is either reaching Commercial Operation, having been Withdrawn or Terminated. This includes cluster studies, re-study iterations of cluster studies, individual re-studies, interim studies, and facilities studies.

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

Refer to SPP Attachment V (GIP), Section 4.2.2 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 Generator Interconnection application unless an assignment of the project has been made between parties. **It is the responsibility of the Interconnection Customer to keep SPP informed of study deposit refund information, including changes in address, contacts, project ownership, banking, and routing information.**

The submittal of a current and completed IRS W-9 Form, along with the completed SPP Study Deposit Refund and Disposition Form is required following the Generation Interconnection Request reaching one of those terminal points referenced above. Failure to provide SPP with an IRS W-9 Form associated with the project deposits and the SPP Study Deposit Refund and Disposition Form could result in delays in setting up security accounts as well as issuance of any refunds.

To wire Study Deposits or Security Deposits to SPP, the SPP banking information form will be provided upon request. Be sure to mark any wire transaction with project name or detail so that we can differentiate the funds from other projects.

For questions regarding study deposits, security deposits, refunds or remaining balances, contact Mitch Jackson, Sr. Engineering Analyst – Engineering Finance & Administration. Email: mjackson@spp.org or call (501) 614-3542.

11 GLOSSARY OF TERMS

Term	Definition
DF	Distribution Factor
DISIS	Definitive Interconnection System Impact Study
ERIS	Energy Resource Interconnection Service
ESR	Energy Storage Resource
FCS	Feasibility Cluster Study
FERC	Federal Energy Regulatory Commission
GIA	Generator Interconnection Agreement
GIP	Generator Interconnection Procedures
GIR	Generator Interconnection Request
IFS	Interconnection Facilities Study
IR	Interconnection Request
NRIS	Network Resource Interconnection Service
OATT	Open Access Transmission Tariff
PISIS	Preliminary Interconnection System Impact Study
POD	Point of Delivery
POI	Point of Interconnection
PTDF	Power Transfer Distribution Factor
SPP	Southwest Power Pool
TO	Transmission Owner

12 REFERENCE DOCUMENTS

- Generation Interconnection Submission Check List

- SPP Open Access Transmission Tariff
  - Generator Interconnection Procedures (Attachment V)
- SPP Business Practices
  - 7250 Generator Interconnection Service
  - 7300 Guideline for Clarifying Application of the SPP Generator Interconnection Procedures
- SPP Planning Criteria
- Seams Agreements
    - AECI
    - ERCOT
    - MISO
    - Peak
    - Saskatchewan Power
    - SWPA

  - TVA
- SPP-MISO GI Coordination Document
- SPP Disturbance Performance Requirements

13 REQUESTING A STUDY MODEL

Interconnection customers may obtain SPP models in which they have an interconnection request by submitting a request through the SPP Request Management System (RMS) (https://spprms.issuetrak.com/login.asp) and selecting the Quick Pick "Map/Model Orders, Submit NDA". Information about setting up an RMS account is available on the SPP website (http://www.spp.org/stakeholder-center/customer-relations/request-management-system/).

Brief guide to requesting GI Study Models is available on this SPP Web Page: https://opsportal.spp.org/documents/studies/RMSRequestForModels.pdf

SPP models contain Critical Energy Infrastructure Information (CEII) and resource-specific data and are only available to entities that execute a Non-Competitive Duty Non-Disclosure Agreement. A customer may designate a consultant or other non-competitive agent to obtain models on their behalf.

14 AFFECTED SYSTEM STUDIES

In accordance with Section 3.5 of the GIP and SPP Business Practice 7250, interconnection requests on non-SPP facilities that have been determined to have potential impacts on the SPP transmission system may be required to undergo an SPP affected system impact study. Interconnection requests to a facility under another provider's OATT are studied outside the SPP queue process with an estimated study completion of 60 days once prior study dependencies are met. Interconnection requests to a facility not under another provider's OATT are studied within the SPP Definitive Interconnection System Impact Study with an estimated completion of 120 days following commencement of the study. Queue priority is determined by the date of execution of the host transmission provider's system impact study agreement or, if applicable, the cluster request window closing date.

To alleviate impacts on the SPP transmission system, all SPP identified Network Upgrades are required to be placed into service prior to full interconnection service on the host transmission provider being available. Additional Limited Operation Impact Studies (LOIS) are available upon request. Requests with SPP identified Network Upgrades require that an SPP Facilities Study be performed and the subsequent execution of an SPP Facilities Construction Agreement.

Requirements for Affected System Study requests[1] are:

[1] Per SPP-AECI and SPP-MISO JOAs, affected system studies for requests in the AECI and MISO queues are coordinated with SPP and do not require a separate application or study deposits with SPP.

1. Affected system study deposit of $15,000 per request (please reference request name and/or number on wire transaction details)
2. Affected System Study Agreement (including Attachment A)
3. Parameters of Generators (Nameplate kVA, power factor, maximum inverter power, etc.)
4. Parameters of the pad mount transformers for the inverters (MVA rating, impedance, and X/R ratio)
5. Parameters of the substation main transformer (Minimum MVA rating/Maximum MVA rating, impedance on the self-cooled MVA rating, X/R ratio)
6. Collector system information in excel format
7. Parameters of the transmission lead from the generation facility to the Point of Interconnection (impedance of the lead in PU on 100 MVA system base, B (line charging) in PU, and the length of the transmission lead)
8. PSS/E dynamic model (and user guide) for the inverters compatible with PSS/E version 33 and PSS/E version 34.8 and 35.3.

Requirements for Affected System Facilities Study requests are:

1. Affected system study deposit of $15,000 per request (please reference request name and/or number on wire transaction details)
2. Affected System Interconnection Facilities Study Agreement (including Attachment A and B)