

GEN-20 ____ - ____
APPENDIX 3 to GIP

PRELIMINARY INTERCONNECTION SYSTEM IMPACT STUDY AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____ 20__ by and between _____ a _____ and existing under the laws of the State of _____ ("Interconnection Customer") and Southwest Power Pool, Inc. a non-profit organization under the laws of the State of Arkansas ("Transmission Provider "). Interconnection Customer and Transmission Provider each may be referred to as a "Party," or collectively as the "Parties."

RECITALS

WHEREAS, Interconnection Customer is proposing to develop a Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by Interconnection Customer dated _____; and

WHEREAS, Interconnection Customer desires to interconnect the Generating Facility with the Transmission System;

WHEREAS, Transmission Provider has completed an Interconnection Feasibility Study (the "Feasibility Study") and provided the results of said study to Interconnection Customer (This recital to be omitted if Transmission Provider or Interconnection Customer does not require the Interconnection Feasibility Study.); and

WHEREAS, Interconnection Customer has requested Transmission Provider to perform a Preliminary Interconnection System Impact Study to assess the impact of interconnecting the Generating Facility to the Transmission System, and of any Affected Systems;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in Transmission Provider's FERC-approved GIP.
- 2.0 Interconnection Customer elects and Transmission Provider shall cause to be performed a Preliminary Interconnection System Impact Study consistent with Section 7.0 of this GIP in accordance with the Tariff.

Issued by: Heather H. Starnes, Manager, Regulatory Policy

Issued on: January 29, 2010

Effective: March 31, 2010

- 3.0 The scope of the Preliminary Interconnection System Impact Study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 The Preliminary Interconnection System Impact Study will be based upon the results of the Interconnection Feasibility Study (if performed) and the technical information provided by Interconnection Customer in the Interconnection Request, subject to any modifications in accordance with Section 4.4 of the GIP. Transmission Provider reserves the right to request additional technical information from Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Preliminary Interconnection System Impact Study. If Interconnection Customer modifies its designated Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the time to complete the Preliminary Interconnection System Impact Study may be extended.
- 5.0 The Preliminary Interconnection System Impact Study report shall provide the following information:
- identification of any circuit breaker short circuit capability limits exceeded as a result of the interconnection;
 - identification of any thermal overload or voltage limit violations resulting from the interconnection;
 - identification of any instability or inadequately damped response to system disturbances resulting from the interconnection and
 - description and non-binding, good faith estimated cost of facilities required to interconnect the Generating Facility to the Transmission System and to address the identified short circuit, instability, and power flow issues.
- 6.0 Interconnection Customer shall provide the deposit specified under Section 7.2 of the GIP for the performance of the Preliminary Interconnection System Impact Study. Transmission Provider's good faith estimate for the time of completion of the Preliminary Interconnection System Impact Study is [insert date].

Issued by: Heather H. Starnes, Manager, Regulatory Policy

Issued on: January 29, 2010

Effective: March 31, 2010

Upon receipt of the Preliminary Interconnection System Impact Study results, Transmission Provider shall charge and Interconnection Customer shall pay the actual costs of the Preliminary Interconnection System Impact Study.

Any difference between the deposit and the actual cost of the study shall be paid by or refunded to Interconnection Customer in accordance with Section 7.2 of the GIP.

- 7.0 Miscellaneous. The Preliminary Interconnection System Impact Study Agreement shall include standard miscellaneous terms including, but not limited to, indemnities, representations, disclaimers, warranties, governing law, amendment, execution, waiver, enforceability and assignment, that reflect best practices in the electric industry, that are consistent with regional practices, Applicable Laws and Regulations and the organizational nature of each Party. All of these provisions, to the extent practicable, shall be consistent with the provisions of the GIP and the GIA.

IN WITNESS THEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

Southwest Power Pool

By: _____

Title: _____

Date: _____

[Insert name of Interconnection Customer]

By: _____

Title: _____

Date: _____

Issued by: Heather H. Starnes, Manager, Regulatory Policy

Issued on: January 29, 2010

Effective: March 31, 2010

**Attachment A to Appendix 3
Preliminary Interconnection System Impact
Study Agreement**

**ASSUMPTIONS USED IN CONDUCTING THE
PRELIMINARY INTERCONNECTION SYSTEM IMPACT STUDY**

The Preliminary Interconnection System Impact Study will be based upon the results of the Interconnection Feasibility Study (if performed), subject to any modifications in accordance with Section 4.4 of the GIP, and the following assumptions:

Designation of Point of Interconnection and configuration to be studied.

Designation of alternative Point(s) of Interconnection and configuration.

[Above assumptions to be completed by Interconnection Customer and other assumptions to be provided by Interconnection Customer and Transmission Provider]

Issued by: Heather H. Starnes, Manager, Regulatory Policy

Issued on: January 29, 2010

Effective: March 31, 2010

FIELD TIME CONSTANT DATA (SEC)

Open Circuit	T'_{do}	_____	T'_{qo}	_____
Three-Phase Short Circuit Transient	T'_{d3}	_____	T'_q	_____
Line to Line Short Circuit Transient	T'_{d2}	_____		
Line to Neutral Short Circuit Transient	T'_{d1}	_____		
Short Circuit Subtransient	T''_d	_____	T''_q	_____
Open Circuit Subtransient	T''_{do}	_____	T''_{qo}	_____

ARMATURE TIME CONSTANT DATA (SEC)

Three Phase Short Circuit	T_{a3}	_____
Line to Line Short Circuit	T_{a2}	_____
Line to Neutral Short Circuit	T_{a1}	_____

NOTE: If requested information is not applicable, indicate by marking "N/A."

**MW CAPABILITY AND PLANT CONFIGURATION
 GENERATING FACILITY DATA**

ARMATURE WINDING RESISTANCE DATA (PER UNIT)

Positive	R_1	_____
Negative	R_2	_____
Zero	R_0	_____

Rotor Short Time Thermal Capacity $I_2^2t =$ _____
 Field Current at Rated kVA, Armature Voltage and PF = _____ amps
 Field Current at Rated kVA and Armature Voltage, 0 PF = _____ amps
 Three Phase Armature Winding Capacitance = _____ microfarad
 Field Winding Resistance = _____ ohms _____ °C
 Armature Winding Resistance (Per Phase) = _____ ohms _____ °C

Issued by: Heather H. Starnes, Manager, Regulatory Policy

Issued on: January 29, 2010

Effective: March 31, 2010

EXCITATION SYSTEM DATA

Identify appropriate IEEE model block diagram of excitation system and power system stabilizer (PSS) for computer representation in power system stability simulations and the corresponding excitation system and PSS constants for use in the model.

GOVERNOR SYSTEM DATA

Identify appropriate IEEE model block diagram of governor system for computer representation in power system stability simulations and the corresponding governor system constants for use in the model.

WIND GENERATORS

Number of generators to be interconnected pursuant to this Interconnection Request:

Elevation: _____ _____ Single Phase _____ Three Phase

Inverter manufacturer, model name, number, and version:

List of adjustable setpoints for the protective equipment or software:

Note: A completed General Electric Company Power Systems Load Flow (PSLF) data sheet or other compatible formats, such as IEEE and PTI power flow models, must be supplied with the Interconnection Request. If other data sheets are more appropriate to the proposed device, then they shall be provided and discussed at Scoping Meeting.

Issued by: L. Patrick Bourne, Director
 Transmission and Regulatory Policy

Issued on: August 30, 2007

Effective: November 1, 2007

INDUCTION GENERATORS

- (*) Field Volts: _____
- (*) Field Amperes: _____
- (*) Motoring Power (kW): _____
- (*) Neutral Grounding Resistor (If Applicable): _____
- (*) I_2^2t or K (Heating Time Constant): _____
- (*) Rotor Resistance: _____
- (*) Stator Resistance: _____
- (*) Stator Reactance: _____
- (*) Rotor Reactance: _____
- (*) Magnetizing Reactance: _____
- (*) Short Circuit Reactance: _____
- (*) Exciting Current: _____
- (*) Temperature Rise: _____
- (*) Frame Size: _____
- (*) Design Letter: _____
- (*) Reactive Power Required In Vars (No Load): _____
- (*) Reactive Power Required In Vars (Full Load): _____
- (*) Total Rotating Inertia, H: _____ Per Unit on KVA Base

Note: Please consult Transmission Provider prior to submitting the Interconnection Request to determine if the information designated by (*) is required.