

## 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.
- 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].

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 Governing Law**

**7.1 Governance.** The validity, interpretation and performance of this Agreement and each of its provisions shall be governed by the laws of the United States of America except to the extent that the laws of the state of Arkansas may apply.

**7.2 Applicability.** This Agreement is subject to all applicable federal and state Laws and Regulations.

**7.3 Reservation of Rights.** Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

**8.0 Notices.**

**8.1 General.** Unless otherwise provided in this Agreement, any notice, demand or request required or permitted to be given by either Party to the other and any instrument required or permitted to be tendered or delivered by either Party in writing to the other shall be effective when delivered and may be so given, tendered or delivered, by recognized national courier, or by depositing the same with the United States Postal Service with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party.

To Transmission Provider:

Southwest Power Pool, Inc.  
201 Worthen Drive  
Little Rock, AR 72223-4936  
Attention: Manager, GI Studies

To Interconnection Customer:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Attention: \_\_\_\_\_

**8.2 Alternative Forms of Notice.** Any notice or request required or permitted to be given by a Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email.

**9.0 Force Majeure**

**9.1 Economic Hardship.** Economic hardship is not considered a Force Majeure event.

**9.2 Default.** Neither Party shall be considered to be in Default with respect to any obligation hereunder, (including obligations under Article 10), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied

upon. Telephone notices given pursuant to this article shall be confirmed in writing as soon as reasonably possible and shall specifically state the full details of the Force Majeure, the time and date when the Force Majeure occurred, and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

## **10.0 Indemnity**

**10.1 Indemnity.** The Parties shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

**10.1.1 Indemnified Person.** If an indemnified person is entitled to indemnification under this Article 10 as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 10.1, to assume the defense of such claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

**10.1.2 Indemnifying Party.** If an indemnifying Party is obligated to indemnify and hold any indemnified person harmless under this Article 10, the amount owing to the indemnified person shall be the amount of such indemnified person's actual Loss, net of any insurance or other recovery.

**10.1.3 Indemnity Procedures.** Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 10.1 may apply, the indemnified person shall notify the indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying Party.

The Indemnifying Party shall have the right to assume the defense thereof with counsel designated by such indemnifying Party and reasonably satisfactory to the indemnified person. If the defendants in any such action include one or more indemnified

persons and the indemnifying Party and if the indemnified person reasonably concludes that there may be legal defenses available to it and/or other indemnified persons which are different from or additional to those available to the indemnifying Party, the indemnified person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an indemnified person or indemnified persons having such differing or additional legal defenses.

The indemnified person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the indemnifying Party. Notwithstanding the foregoing, the indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the indemnified person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the indemnified person, or there exists a conflict or adversity of interest between the indemnified person and the indemnifying Party, in such event the indemnifying Party shall pay the reasonable expenses of the indemnified person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the indemnified person, which shall not be reasonably withheld, conditioned or delayed.

**10.2 Consequential Damages.** Other than the Liquidated Damages heretofore described, in no event shall either Party be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

## **11.0 Assignment**

**11.1 Assignment.** This Agreement may be assigned by either Party only with the written consent of the other Party; provided that either Party may assign this Agreement without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this

Agreement; and provided further that the Interconnection Customer shall have the right to assign this Agreement, without the consent of Transmission Provider for collateral security purposes to aid in providing financing for the Generating Facility, provided that the Interconnection Customer will require any secured party, trustee or mortgagee to notify the Transmission Provider of any such assignment. Any financing arrangement entered into by the Interconnection Customer pursuant to this Article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify the Transmission Provider of the date and particulars of any such exercise of assignment right. Any attempted assignment that violates this Article or Applicable Laws and Regulations is void and ineffective. Any assignment under this Agreement shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

## **12.0 Severability**

**12.1 Severability.** If any provision in this Agreement is finally determined to be invalid, void or unenforceable by any court or other Governmental Authority having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this Agreement.

## **13.0 Comparability**

**13.1 Comparability.** The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.

## **14.0 Deposits and Invoice Procedures**

**14.1 General.** The Transmission Provider and the Interconnection Customer may discharge mutual debts and payment obligations due and owing to each other on the same date through netting, in which case all amounts a Party owes to the other Party under the GIP, including credits, shall be netted so that only the net amount remaining due shall be paid by the owing Party.

**14.2 Study Deposits.** The Interconnection Customer shall provide study deposits, in accordance with the GIP to the Transmission Provider. The study deposits amounts and schedule shall be in accordance with the GIP.

**14.3 Final Invoice.** Within six months after completion of the studies Transmission Provider shall provide an invoice of the final cost of the studies and shall set forth such costs in sufficient detail to enable the Interconnection Customer to compare the actual costs with the estimates and to ascertain deviations, if any, from the cost estimates. Transmission Provider shall refund to Interconnection Customer any amount by which the actual payment by Interconnection Customer for

estimated costs exceeds the actual costs of the studies within thirty (30) Calendar Days of the issuance of such final study invoice.

**14.4 Payment.** Invoices shall be rendered to the paying Party at the address specified in the Interconnection Request in Appendix 1 to the GIP. The Party receiving the invoice shall pay the invoice within thirty (30) Calendar Days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party. Payment of invoices by either Party will not constitute a waiver of any rights or claims either Party may have under the GIP.

**14.5 Disputes.** In the event of a billing dispute between Transmission Provider and Interconnection Customer, Transmission Provider shall continue to provide studies for Interconnection Service under the GIP as long as Interconnection Customer: (i) continues to make all payments not in dispute; and (ii) pays to Transmission Provider or into an independent escrow account the portion of the invoice in dispute, pending resolution of such dispute. If Interconnection Customer fails to meet these two requirements for continuation of service, then Transmission Provider may provide notice to Interconnection Customer of a Default pursuant to Article 16. Within thirty (30) Calendar Days after the resolution of the dispute, the Party that owes money to the other Party shall pay the amount due together with accrued interest in accordance with Section 3.6 of this Attachment V.

## **15.0 Representations, Warranties, and Covenants**

**15.1 General.** Each Party makes the following representations, warranties and covenants:

**15.1.1 Good Standing.** Such Party is duly organized, validly existing and in good standing under the laws of the state in which it is organized, formed, or incorporated, as applicable; and that it has the corporate power and authority to own its properties, to carry on its business as now being conducted and to enter into this Agreement and perform and carry out all covenants and obligations on its part to be performed under and pursuant to this Agreement.

**15.1.2 Authority.** Such Party has the right, power and authority to enter into this Agreement, to become a party hereto and to perform its obligations hereunder. This Agreement is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by

general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

**15.1.3 No Conflict.** The execution, delivery and performance of this Agreement does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of such Party, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon such Party or any of its assets.

**15.1.4 Consent and Approval.** Such Party has sought or obtained, or, in accordance with this Agreement will seek or obtain, each consent, approval, authorization, order, or acceptance by any Governmental Authority in connection with the execution, delivery and performance of this Agreement, and it will provide to any Governmental Authority notice of any actions under this Agreement that are required by Applicable Laws and Regulations.

## **16.0 Breach, Cure and Default**

**16.1 General.** A breach of this Agreement ("Breach") shall occur upon the failure by a Party to perform or observe any material term or condition of this Agreement. A default of this Agreement ("Default") shall occur upon the failure of a Party in Breach of this Agreement to cure such Breach in accordance with the provisions of Section 17.4.

**16.2 Events of Breach.** A Breach of this Agreement shall include:

- (a) The failure to pay any amount when due;
- (b) The failure to comply with any material term or condition of this Agreement, including but not limited to any material Breach of a representation, warranty or covenant made in this Agreement;
- (c) If a Party: (1) becomes insolvent; (2) files a voluntary petition in bankruptcy under any provision of any federal or state bankruptcy law or shall consent to the filing of any bankruptcy or reorganization petition against it under any similar law; (3) makes a general assignment for the benefit of its creditors; or (4) consents to the appointment of a receiver, trustee or liquidator;
- (d) Assignment of this Agreement in a manner inconsistent with the terms of this Agreement;
- (e) Failure of any Party to provide information or data to the other Party as required under this Agreement, provided the Party entitled to the information or



data under this Agreement requires such information or data to satisfy its obligations under this Agreement.

**16.3 Cure and Default.** Upon the occurrence of an event of Breach, the Party not in Breach (hereinafter the “Non-Breaching Party”), when it becomes aware of the Breach, shall give written notice of the Breach to the Breaching Party (the “Breaching Party”) and to any other person a Party to this Agreement identifies in writing to the other Party in advance. Such notice shall set forth, in reasonable detail, the nature of the Breach, and where known and applicable, the steps necessary to cure such Breach. Upon receiving written notice of the Breach hereunder, the Breaching Party shall have thirty (30) days to cure such Breach. If the Breach is such that it cannot be cured within thirty (30) days, the Breaching Party will commence in good faith all steps as are reasonable and appropriate to cure the Breach within such thirty (30) day time period and thereafter diligently pursue such action to completion. In the event the Breaching Party fails to cure the Breach, or to commence reasonable and appropriate steps to cure the Breach, within thirty (30) days of becoming aware of the Breach, the Breaching Party will be in Default of the Agreement.

**16.4 Right to Compel Performance.** Notwithstanding the foregoing, upon the occurrence of an event of Default, the non-Defaulting Party shall be entitled to: (1) commence an action to require the Defaulting Party to remedy such Default and specifically perform its duties and obligations hereunder in accordance with the terms and conditions hereof, and (2) exercise such other rights and remedies as it may have in equity or at law.

## **17. Miscellaneous**

**17.1 Binding Effect.** This Agreement and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

**17.2 Conflicts.** In the event of a conflict between the body of this Agreement and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this Agreement shall prevail and be deemed the final intent of the Parties.

**17.3 Rules of Interpretation.** This Agreement, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this Agreement, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this Agreement), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof; (4) reference to any Applicable Laws and

Regulations means such Applicable Laws and Regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder.

- 17.4 Entire Agreement.** This Agreement, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants that constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this Agreement.
- 17.5 No Third Party Beneficiaries.** This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.
- 17.6 Waiver.** The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.
- Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or Default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of Interconnection Customer's legal rights to obtain an interconnection from Transmission Provider. Any waiver of this Agreement shall, if requested, be provided in writing.
- 17.7 Headings.** The descriptive headings of the various Articles of this Agreement have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Agreement.
- 17.8 Multiple Counterparts.** This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.
- 17.9 Amendment.** The Parties may by mutual agreement amend this Agreement by a written instrument duly executed by the Parties.
- 17.10 Modification by the Parties.** The Parties may by mutual agreement amend the Appendices to this Agreement by a written instrument duly executed by the Parties. Such amendment shall become effective and a part of this Agreement upon satisfaction of all Applicable Laws and Regulations.

**17.11 No Partnership.** This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

**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.

**[Insert name of Transmission Provider]**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**[Insert name of Interconnection Customer]**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

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]

GENERATING FACILITY DATA FOR THE PRELIMINARY INTERCONNECTION SYSTEM IMPACT STUDY

UNIT RATINGS

Nameplate kVA \_\_\_\_\_ °F \_\_\_\_\_ Voltage \_\_\_\_\_
Prime Mover type \_\_\_\_\_
Power Factor: Lead \_\_\_\_\_ Lag \_\_\_\_\_
Speed (RPM) \_\_\_\_\_ Connection (e.g. Wye) \_\_\_\_\_
Short Circuit Ratio \_\_\_\_\_ Frequency, Hertz \_\_\_\_\_
Stator Amperes at Rated kVA \_\_\_\_\_ Field Volts \_\_\_\_\_
Max Turbine Power: Summer MW \_\_\_\_\_ °F \_\_\_\_\_
Winter MW \_\_\_\_\_ °F \_\_\_\_\_

COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA

Inertia Constant, H = \_\_\_\_\_ kW sec/kVA
Moment-of-Inertia, WR^2 = \_\_\_\_\_ lb. ft.^2

REACTANCE DATA (PER UNIT-RATED KVA)

DIRECT AXIS QUADRATURE AXIS

Synchronous – saturated Xdv \_\_\_\_\_ Xqv \_\_\_\_\_

Synchronous – unsaturated	$X_{di}$	_____	$X_{qi}$	_____
Transient – saturated	$X'_{dv}$	_____	$X'_{qv}$	_____
Transient – unsaturated	$X'_{di}$	_____	$X'_{qi}$	_____
Subtransient – saturated	$X''_{dv}$	_____	$X''_{qv}$	_____
Subtransient – unsaturated	$X''_{di}$	_____	$X''_{qi}$	_____
Negative Sequence – saturated	$X_{2v}$	_____		
Negative Sequence – unsaturated	$X_{2i}$	_____		
Zero Sequence – saturated	$X_{0v}$	_____		
Zero Sequence – unsaturated	$X_{0i}$	_____		
Leakage Reactance	$X_{lm}$	_____		

### 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

### CURVES

Provide Saturation, Vee, Reactive Capability, Capacity Temperature Correction curves.  
Designate normal and emergency Hydrogen Pressure operating range for multiple curves.

### GENERATOR STEP-UP TRANSFORMER DATA RATINGS

Capacity \_\_\_\_\_ Self-cooled/  
Maximum Nameplate  
\_\_\_\_\_ / \_\_\_\_\_ kVA

Voltage Ratio (Generator Side/System side/Tertiary)  
\_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ kV

Winding Connections (Low V/High V/Tertiary V (Delta or Wye))  
\_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Fixed Taps Available \_\_\_\_\_

Present Tap Setting \_\_\_\_\_

Impedance: Positive  $Z_1$  (on self-cooled kVA rating) \_\_\_\_\_ % \_\_\_\_\_ X/R

Impedance: Zero  $Z_0$  (on self-cooled kVA rating) \_\_\_\_\_ % \_\_\_\_\_ X/R

### 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.

## 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.