

Appendices

Appendix 1. INTERCONNECTION REQUEST FOR A LARGE GENERATING FACILITY

APPENDIX 1 to LGIP INTERCONNECTION REQUEST FOR A LARGE GENERATING FACILITY

1. The undersigned Interconnection Customer submits this request to interconnect its Large Generating Facility with Transmission Provider's Transmission System pursuant to a Tariff.
2. This Interconnection Request is for (check one):
 A proposed new Large Generating Facility.
 An increase in the generating capacity or a Material Modification of an existing Generating Facility.
3. The type of interconnection service requested (check one):
 Energy Resource Interconnection Service
 Network Resource Interconnection Service
4. Check here only if Interconnection Customer requesting Network Resource Interconnection Service also seeks to have its Generating Facility studied for Energy Resource Interconnection Service.
5. Interconnection Customer provides the following information:
 - a. Address or location or the proposed new Large Generating Facility site (to the extent known) or, in the case of an existing Generating Facility, the name and specific location of the existing Generating Facility;
 - b. Maximum summer at ____ degrees C and winter at ____ degrees C megawatt electrical output of the proposed new Large Generating Facility or the amount of megawatt increase in the generating capacity of an existing Generating Facility;
 - c. General description of the equipment configuration;
 - d. Commercial Operation Date (Day, Month, and Year);

- e. Name, address, telephone number, and e-mail address of Interconnection Customer's contact person;
- f. Approximate location of the proposed Point of Interconnection (optional); and
- g. Interconnection Customer Data (set forth in Attachment A).
- h. Primary frequency response operating range for electric storage resources.
- i. Requested capacity (in MW) of Interconnection Service (if lower than the Generating Facility Capacity).

6. Applicable Initial Deposit amount as specified in the LGIP.

7. Evidence of Site Control as specified in the LGIP (check one)

Is attached to this Interconnection Request

Is NOT attached to this Interconnection Request, but a Deposit in Lieu of Site Control is provided

8. This Interconnection Request shall be submitted to the representative indicated below:

[To be completed by Transmission Provider]

9. Representative of Interconnection Customer to contact:

[To be completed by Interconnection Customer]

10. This Interconnection Request is submitted by:

Name of Interconnection Customer: _____

By (signature): _____

Name (type or print): _____

Title: _____

Date: _____

Attachment A. LARGE GENERATING FACILITY DATA

**Attachment A to Appendix 1
Interconnection Request**

**LARGE GENERATING FACILITY DATA
UNIT RATINGS**

kVA _____ °F _____ Voltage _____
 Power Factor _____
 Speed (RPM) _____
 Connection (e.g. Wye) _____
 Short Circuit Ratio _____ Frequency, Hertz _____
 Stator Amperes at Rated kVA _____ Field Volts _____
 Max Turbine MW _____ °F _____
 Primary frequency response operating range for electric storage resources:
 Minimum State of Charge: _____
 Maximum State of Charge: _____

COMBINED TURBINE-GENERATOR-EXCITER INERTIA DATA

Inertia Constant, H = _____ kW sec/kVA
 Moment-of-Inertia, WR² = _____ lb. ft.²

REACTANCE DATA (PER UNIT-RATED KVA)

	DIRECT AXIS	QUADRATURE AXIS
Synchronous - saturated	X _{dv} _____	X _{qv} _____
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'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 _a ³ _____
Line to Line Short Circuit	T _a ² _____
Line to Neutral Short Circuit	T _a ¹ _____

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

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

ARMATURE WINDING RESISTANCE DATA (PER UNIT)

Positive	R ¹ _____
Negative	R ₂ _____
Zero	R ₀ _____

Rotor Short Time Thermal Capacity I₂² t = _____

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

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): _____
- (*) 122t 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.