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| **FOR INTERNAL USE ONLY** |
| **Project Number:** |
| **Queue Date:** |

**Generation Interconnection Study DataSheet - Wind Power ONLY**

Customers must provide the following information in its entirety. (Add Company Name) will not proceed with an interconnection study until all data is received and confirmed to be practical. (Add Company Name) uses power technology incorporated (PTI) standard models to perform power flow and stability analysis. If the information provided conforms to a PTI model, please specify. Study results are dependent on study data provided by the customer. Notification of changes to data should be provided to the cooperative, in writing, as promptly as possible. Any change in the study data will have an impact on the performance of the study and the study results provided.

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| Application Date: |  |
| Datasheet Revision #: | |
| Revision Date: | |

**REQUESTOR OF INTERCONNECTION STUDY**

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| --- | --- |
| Company Name: | Company Phone Number: |
| Company Address: | |
| Company City/State/Zip Code: | |
| Project Name: | |
| Project Address: | |
| Project City/State/Zip Code: |  |
| Contact Name: |  |
| Contact Title: |  |
| Contact Phone Number: | Email: |

**DESCRIPTION OF REQUEST**

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| **1) Type of Request (i.e. ERIS, NRIS, IPP):** Choose an item. |
| **2) Is this request an alternate to another request made by an Integrated Transmission System (ITS) Participant?**  *NOTE: This information is needed to alleviate duplication of analysis of generation requests.*  YES \_\_\_\_\_\_\_\_ NO \_\_\_\_\_\_\_\_  *If yes, please indicate location and M/MVA of other request.*  Location: MW/MVA:  *When making multiple requests for interconnection, the customer is required to provide a separate datasheet for each request.* |
| 1. **Maximum Gross Capacity:**    1. \_\_\_\_\_\_\_\_MVA at 104 °F and \_\_\_\_\_\_\_\_MVA at 95 °F (Gross plant/facility aggregate nameplate rating)    2. Will generation be installed incrementally? YES \_\_\_\_\_\_\_\_ NO \_\_\_\_\_\_\_\_    3. Portion of request which is designated a network resource: \_\_\_\_\_\_\_\_%    4. Portion of request for interconnection service only: \_\_\_\_\_\_\_% |
| 1. **Location of Interconnection:**    1. County: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. Distance of customer plant from ITS point of interconnection: \_\_\_\_\_\_\_\_miles    3. Substation or Transmission Line: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    4. Voltage level requested for interconnection: \_\_\_\_\_\_\_\_kV |
| 1. **Key Dates:**    1. Expected In Service Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. Expected Commercial Operation Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**TECHNICAL DATA**

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| **1) Provide a Single Line Diagram, similar to the diagram below. Space is provided on the next page:**  Point of Interconnection  Interconnection Wind Plant Equivalent  Transmission Line Collector System Equivalent Transformer Generator  Equivalent  B B B WTG  Circuit Breaker/ Circuit Breaker/ Switch Switch  B  Plant level Dynamic/Static Reactive Compensation |
| **Single Line Diagram of Requestor’s Project: Please draw diagram here or attach file.** |
| 1. **Interconnection Transmission Line:**    1. Line voltage = kV    2. Line rating at 95°F = MVA    3. Line rating at 104°F = MVA    4. Line length = miles    5. Conductor type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    6. R = ohm or pu on 100 MVA and line kV base (positive sequence)    7. X = ohm or pu on 100 MVA and line kV base (positive sequence)    8. B = μF or pu on 100 MVA and line kV base (positive sequence) |
| 1. **Main Transformer:** *Note: If there are multiple transformers, data for each transformer should be provided.)*    1. Rating (ONAN/ONAF/ONAF): \_\_\_\_\_\_/\_\_\_\_\_\_/\_\_\_\_\_\_ MVA    2. Nominal Voltage for each winding (Low /High /Tertiary): \_\_\_\_\_\_/\_\_\_\_\_\_/\_\_\_\_\_\_ kV    3. Available taps: \_\_\_\_\_\_\_\_ (indicate fixed or with LTC), Operating Tap: \_\_\_\_\_\_\_\_\_\_    4. Positive sequence ZHL: \_\_\_\_\_\_%, \_\_\_\_\_\_\_X/R on transformer self-cooled (ONAN) MVA    5. Winding Connections (Low/High): |
| 1. **High Side Breaker/Protection Switch:**    1. Rated Maximum Voltage in kV (R.M.S., Line-to-line, 60 Hz Operating Voltage): kV    2. Rated Nominal Voltage in kV (R.M.S., Line-to-line, 60 Hz Operating Voltage): kV    3. Rated Ampere (Maximum, R.M.S., continuous, 60 Hz rated current): A    4. Interrupting Rating: kA    5. Rated interrupting time: cycles    6. BIL Rating:    7. Interrupting and insulating media: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    8. Tripping and closing control voltages: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    9. Breaker Current Transformer accuracy class:    10. Rated Frequency: Hz |
| 1. **Collector System Equivalent Model:**    1. Collector system voltage = kV and equivalent rating at 95°F = MVA and at 104°F = MVA    2. R = ohm or pu on 100 MVA and collector kV base (positive sequence)    3. X = ohm or pu on 100 MVA and collector kV base (positive sequence)    4. B = μF or pu on 100 MVA and collector kV base (positive sequence) |
| 1. **Turbine Generator Step-Up Transformer:** *Note: These are typically two-winding air-cooled transformers. If the proposed project contains different types or sizes of step-up transformers, please provide data for each type.*    1. Number of transformers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. Rating: \_\_\_\_\_\_\_\_ kVA    3. Nominal voltage for each winding (Low /High): \_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_kV    4. Available taps: \_\_\_\_\_\_\_\_(indicate fixed or with LTC), Operating Tap: \_\_\_\_\_\_\_\_    5. Positive sequence impedance (Z1) \_\_\_\_\_\_\_\_%, \_\_\_\_\_\_\_\_X/R on transformer self-cooled MVA    6. Winding Connections (Low/High): \_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_ |
| 1. **Wind Plant Data:**    1. Number of Turbine Generators: \_\_\_\_\_\_\_\_\_    2. Gross Individual Nameplate Rating (each Turbine) at 104 °F: / kW/kVA and 95°F: / kW/kVA    3. Describe Nameplate Rating as a function of temperature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    4. Turbine Generator Manufacturer and Model #: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    5. Turbine Generator Type . If Type 5 please Describe: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   (Type 1: Squirrel cage induction, Type 2: Wound rotor induction, Type 3: Doubly fed asynchronous, Type 4: Full converter interface, Type 5: Other)   * 1. Describe Turbine Generator Reactive Capability: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   2. Please attach documentation with the Manufacturer Specification Sheets.   3. Please attach documentation with PSS/E dynamic data either using PSS/E model(s) or user written dynamic models. |
| 1. **Plant Parasitic/Auxiliary load:**    1. Auxiliary load for total plant: / kW/kVAr    2. Load served through GSU, dedicated distribution feed etc. please specify: |
| 1. **Plant Controller:**    1. Plant Controller Manufacturer and Model #: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. Please attach documentation with PSS/E dynamic data either using PSS/E model(s) or user written dynamic models. |
| 1. **Low Side Breaker/Protection Switch:**    1. Rated Maximum Voltage in kV (R.M.S., Line-to-line, 60 Hz Operating Voltage): kV    2. Rated Nominal Voltage in kV (R.M.S., Line-to-line, 60 Hz Operating Voltage): kV    3. Rated Ampere (Maximum, R.M.S., continuous, 60 Hz rated current): A    4. Interrupting Rating: kA    5. Rated interrupting time: cycles    6. BIL Rating:    7. Interrupting and insulating media:    8. Tripping and closing control voltages: \_\_\_\_\_\_\_\_\_\_    9. Breaker current transformer accuracy class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    10. Rated frequency: \_\_\_\_\_\_\_\_\_\_Hz |
| 1. **Plant Reactive Power Compensation:** Provide the following information for plant-level reactive compensation, if applicable:    1. Individual shunt capacitor and size of each: X MVA    2. Dynamic reactive control device, (SVC, STATCOM): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    3. Control range(lead and lag): MVAR at 104°F: and 95°F:    4. Control mode (e.g., voltage, power factor, reactive power):    5. Regulation point:    6. Please attach documentation with completed PSS/E dynamic and static data for the dynamic reactive control devices.    7. Describe the overall reactive power control strategy: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **12) Standards for Wind Interconnection to Transmission Power Grid:**  Please explicitly list all applicable electric power standards and electric power industry codes that the Wind Turbine Generator conform to: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |