Note: This document has been adapted to PV applications from the WECC Wind Power Plant Power Flow Modeling Guidelines dated August 2010. The data provider should refer to this document for background related to the specifics of this data request:

1. **One-Line Diagram.** This should be similar to Figure 1 below.



*Figure A-1. Single-machine representation one-line diagram*
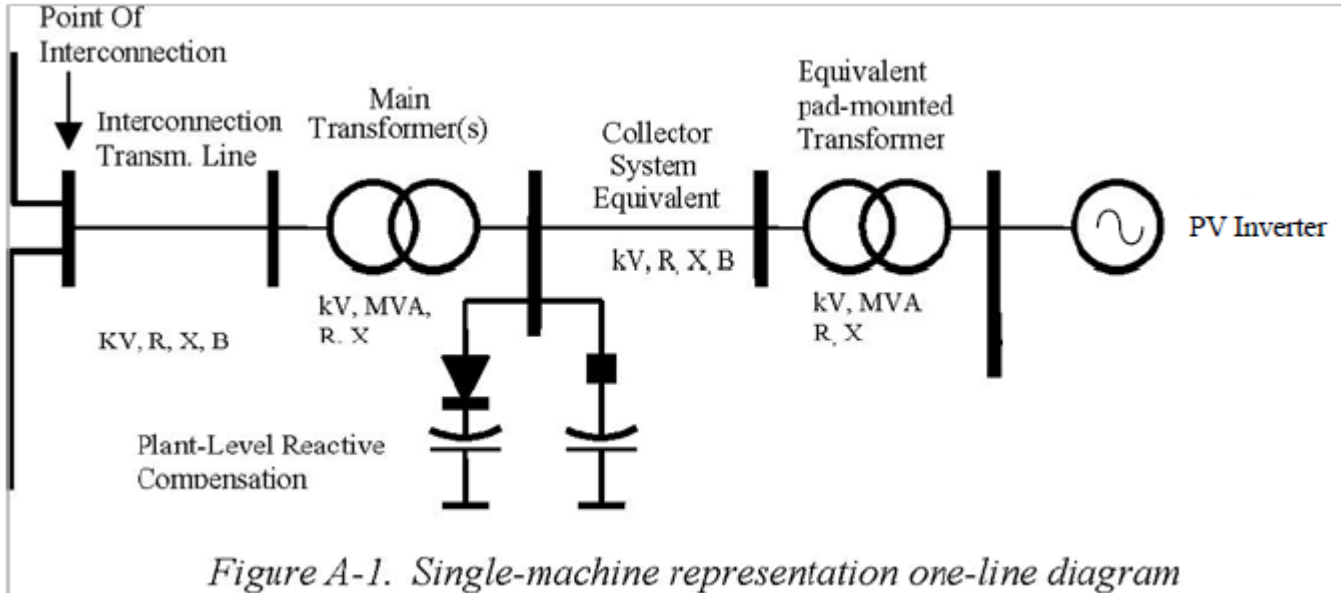
**2. Interconnection Transmission Line.**

• Point of Interconnection (substation or transmission line name): _____

• Line voltage = _____ kV

• R = _____ ohm or _____ pu on 100 MVA and line kV base (positive sequence)

• X = _____ ohm or _____ pu on 100 MVA and line kV base (positive sequence)

• B = _____ µF or _____ pu on 100 MVA and line kV base (positive sequence)

**3. Station Transformer.** (Note: If there are multiple transformers, data for each transformer should be provided)

• Rating (ONAN/ONAF/ONAF): _____/_____/_____ MVA

• Nominal Voltage for each winding (Low /High /Tertiary): _____/_____/_____ kV

• Available taps: _____ (indicate fixed or with LTC), Operating Tap: _____

• Positive sequence $Z_{HL}$: _____%, ____X/R on transformer self-cooled (ONAN) MVA

**4. Collector System Equivalent Model**. This can be found by applying the equivalencing methodology described in Section 3.4; otherwise, typical values can be used.

• Collector system voltage = _____ kV

• R = _____ ohm or _____ pu on 100 MVA and collector kV base (positive sequence)

• X = _____ ohm or _____ pu on 100 MVA and collector kV base (positive sequence)

• B = _____ µF or _____ pu on 100 MVA and collector kV base (positive sequence)

**5. Inverter 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.

- Rating: _____ MVA
- Nominal voltage for each winding (Low /High): _____/_____kV
- Available taps: _____ (indicate fixed or with LTC), Operating Tap:_____
- Positive sequence impedance (Z1) _____%, ____X/R on transformer self-cooled MVA

**6. Inverter and PV Module Data.**

- Number of Inverters: _____
- Nameplate Rating (each Inverter): _____/_____ kW/kVA
- Describe reactive capability as a function of voltage: _____
- Inverter Manufacturer and Model #: _____
- PV Module Manufacturer and Model #: _____
- [Note: This section also requests completed PSS/E data sheets for the generic PV library model(s) once they are available. <span style="color:red">DYRE files and documentation should be attached for PSSE v33 and v34</span>.] User Models not accepted at this time.

**7. Plant Reactive Power Compensation.** Provide the following information for plant-level reactive compensation, if applicable:

- Individual shunt capacitor and size of each: _____ MVA
- Dynamic reactive control device, (SVC, STATCOM): _____
- Control range _____ MVAr (lead and lag)
- Control mode (e.g., voltage, power factor, reactive power): _____
- Regulation point _____
- Describe the overall reactive power control strategy: _____

_____