1. Overview

This Application for Interconnection shall be used to request interconnection of Customer-Generator electric generating facilities to Turlock Irrigation District (TID).

Customer-Generators must not interconnect their Generating Facility with TID’s transmission or distribution facilities until they receive written authorization from TID. Unauthorized interconnections could result in injury to persons and/or damage to equipment and/or property for which the Customer-Generator may be liable.

Prior to receiving written authorization from TID, Customer-Generator must obtain local jurisdictional (local city or county building department) approval (building permit and/or signed inspection tag).

Applicant shall familiarize themselves with the requirements of the TID Electric Service Rules, especially the generating facility requirements specified in Electric Service Rule 23. A copy can be obtained by request in Customer Service or at TID’s website, tid.org/solar

Application Package:

Drawings must conform to accepted engineering standards and must be legible; 11”x17” is preferred.

1. A completed copy of this application.
2. Site drawing to scale, showing generator location and point of interconnection with TID.
3. Single Line Diagram, showing switches/disconnects of the proposed interconnection including the required protection devices and breakers, battery pack connection (if connected).
4. Three Line Diagram, showing the proposed current transformers and potential transformers as they are connected to the relays and meters.
5. Description of operation and elementary drawings, showing the synchronization (if appropriate), and tripping of breakers by the required relays. (If not provided, they may be requested after approval of the single and three line diagrams.)
6. List of relays, switches, disconnects, etc., and include the following information:
   a) Manufacturer’s name and model number, with each device listed.
   b) Range of available settings.
   c) Proposed settings.
   d) Ratio of associated current and potential transformers. If multi-ratio, state the available ratios and which one is proposed.
7. CSI EPBB Calculator (csi-epbb.com)
8. Specifications for panels and inverter(s), internal wiring diagram for inverter if battery pack is connected.
9. Specifications for battery pack, include following information:
   a) Manufacturer’s name and model.
   b) Battery pack capacity in KW and KWH.
   c) List of critical loads connected to battery pack, Voltage range and Max Power.
10. TID Standards:
    a. For Self Generation Load Side Connection: Refer to TID standard 51092.
    b. For Self Generation Line Side Connection: Refer to TID standard 51093.

Additional information may be requested and required of applicant.

Mailing Instructions:
Completed application packages should be submitted to:
Turlock Irrigation District
Attention: Consumer Programs
P.O. Box 949
Turlock, CA 95381
Or Email to solar@tid.org
2. **TID Customer & Contractor Information**

   **TID Customer Information**
   
   Name
   
   Account Number ___________________________ Meter Number ___________________________
   
   Mailing Address
   
   Installation Address
   
   Phone Number ___________________________ Email Address ___________________________

   **Contractor Information**
   
   Company Name ___________________________
   
   Contact Person ___________________________
   
   Mailing Address
   
   Contact Phone ___________________________ Email Address ___________________________

3. **Maximum Generator Power Delivered to TID Grid at Point of Interconnection**

   Generator Rated Output ___________________ kW
   
   Less Generator Auxiliary Load: - ___________________ kW
   
   Maximum Net Power Delivered to TID Grid: = ___________________ kW
   
   Standby Load to be Served When Generator is OFF: ___________________ kW

4. **Generator Information**

   Circle the Project Type Photovoltaic Wind Other (Describe) ___________________________
   
   Expected Operating Date ___________________________
   
   Number of Generators or Inverters to be Installed ___________________________
   
   Generator or Inverter Manufacturer Name ___________________________
   
   Model (Name/Number) ___________________________
   
   Generator or Inverter Manufacturer Date ___________________________
   
   Generator or Inverter Rated Size kW ___________________ KVA ___________________
APPLICATION FOR INTERCONNECTION
ELECTRIC GENERATING FACILITIES

Terminal Voltage ________________ Power Factor (%) ________________

Photovoltaic Equipment
List the photovoltaic (PV) panel information requested below.
If the panels are not all identical modules, list the total capacity connected to each inverter you listed above.

<table>
<thead>
<tr>
<th>No.</th>
<th>PV Panel Manufacturer</th>
<th>PV Panel Model</th>
<th>PV Panel Rating{eq}^3\text{(kW)}\text{</th>
<th>Quantity Of PV Panels}</th>
<th>Total Capacity{eq}^3\text{(kW)}</th>
<th>Inverter number From (B) above (1 or 2)</th>
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Wind Turbine Equipment
List the wind turbine information requested below. If there is more than one wind turbine of the same type, list the total capacity connected to each inverter you listed above. Write NONE if the inverter is incorporated in the wind turbine and no inverter is required.

<table>
<thead>
<tr>
<th>No.</th>
<th>Wind Turbine Manufacturer</th>
<th>Wind Turbine Model</th>
<th>Wind Turbine Rating{eq}^3\text{(kW)}</th>
<th>Quantity of Wind Turbines</th>
<th>Total Capacity{eq}^3\text{(kW)}</th>
<th>Inverter number from (B) above (1 or 2)</th>
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Generator Type (select one) Induction Synchronous DC with Inverter
Synchronizing (select one) Auto Manual Relay Supervision (yes or no) ____________
Voltage Output _____ kV Voltage Interconnection ____________
Phase (select one) 1ø 3ø
Connection (select one) Delta Grounded WYE Ungrounded
Regulation Range
Generator Voltage _________________________ Power Factor _________________________

Maximum generator 3-phase fault current contribution at interconnection point
(Single-phase generators should provide phase-phase fault current) ____________ Amps
Short circuit interrupting rating at customer service entrance panel ____________ Amps
If generator is to be started as motor enter in-rush current ____________ Amps
Generator locked rotor current ____________ Amps
Is the generator certified by a Nationally Recognized Testing Laboratory? ____________
5. Generator Grounding

- Wye Grounded/Delta Ground Bank with Overcurrent Relay
- Wye Grounded/Broken Delta [2]: Ground Bank with Low Pick-up Overvoltage Relay
- Current Transformer with Overcurrent Relay: In Neutral of Dedicated Transformer
- Potential transformer with Voltage Relay 2: In Neutral of Dedicated Transformer
- Other
- None

6. Battery Pack System (If Connected)

List the Battery Pack system information requested below.

<table>
<thead>
<tr>
<th>No.</th>
<th>Battery Manufacturer</th>
<th>Battery Model</th>
<th>Battery Rating³ (kW)</th>
<th>Battery Ratings (KWH)</th>
<th>Quantity Of battery (ies)</th>
<th>Total Capacity (kW)</th>
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List of Critical loads connected to Battery Pack:

- __________ kW  __________________________ kW
- __________ kW  __________________________ kW
- __________ kW  __________________________ kW
- __________ kW

Total critical load connected to battery pack: ______________ kW

7. Step-Up Transformer Data

Rated kVA  __________ kVA  Impedance Z  __________ %

Voltage

- Primary __________ kV  Secondary __________ V

Available H.V. __________ kV  Available L.V. Taps __________ kV

Taps

- __________ kV  __________ V
- __________ kV  __________ V
- __________ kV  __________ V
- __________ kV  __________ V
- __________ kV  __________ V
- __________ kV  __________ V
Please indicate present tap settings

H.V. Tap  ____________ kV  L.V. Tap  ____________ V

Does transformer have a tap changing under load?  ______________

Is transformer a regulating-type transformer?  ______________

If yes, please indicate regulating voltage range and the number of steps.

_____________kV to ____________ kV  Number of steps _______

Please indicate how the transformer windings are connected:

H.V. Side  ____________Wye  L.V. Side  ____________Wye

_____________Grounded Wye  ____________Grounded Wye

_____________Delta  ____________Delta

Transformer Fuse Type:  ____________ Size:  ____________

If the transformer test report is not available, please provide the following impedances using the MVA base given in (6.A) above:

R (T) per unit resistance  ____________ pu

X (T) per unit reactance  ____________ pu

B (T) per unit magnetizing susceptance  ____________ pu

G (T) per unit loss conductance  ____________ pu

Other comments regarding the transformer?  _____________________________________________

__________________________________________

Proposed breaker(s) will be equipped with:

Undervoltage Release  ____________

D.C. Trip  ____________