

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 Diagrams**, 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 breaker tripping 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. **Field RE-UL-Listed** is required for any changes or modifications made in the panel above 400 Amps for the PV interconnections.
11. **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.
 - c. **Line Side Connections** – Only acceptable for Commercial, Agriculture and Industrial facilities. No line side connections acceptable for residential properties.

Additional information may be requested and required of applicant.

Mailing Instructions:

Completed application packages should be submitted to:

Turlock Irrigation District
Attention: Line Engineering
P.O. Box 949
Turlock, CA 95381
Or Email to solar@tid.org

For assistance completing this application, please call (209) 883-8415.

APPLICATION FOR INTERCONNECTION
ELECTRIC GENERATING FACILITIES



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

Generation Connection Line Side (All except Residential) _____ Load Side _____

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 _____

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ELECTRIC GENERATING FACILITIES**



Generator or Inverter Rated Size kW _____ KVA _____

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.

No.	PV Panel Manufacturer	PV Panel Model	PV Panel Rating ³ (kW)	Quantity Of PV Panels	Total Capacity ³ (kW)	Inverter number From (B) above (1 or 2)
1						
2						

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.

No.	Wind Turbine Manufacturer	Wind Turbine Model	Wind Turbine Rating ³ (kW)	Quantity of Wind Turbines	Total Capacity ³ (kW)	Inverter number from (B) above (1 or 2)
1						

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) 1 ϕ 3 ϕ

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? _____

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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 FuseType: _____ 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 _____