Solar Photovoltaic Submittal Requirements Checklist

Solar Photovoltaic applications are reviewed by both the Building Services Department and the Fire Marshal’s office. Please review and use this submittal requirements checklist to facilitate the review of your project.

PERMITS

A solar array will always require an electrical permit and the following shall also be submitted:

1. **PV Solar Application form must be completed.** If the array is building mounted the first page is all that is required under most circumstances. If the array is ground mounted the second page will need to be completed and a site plan including footing details will be required.

2. **Permit fee.** A fee is due at time of permit issuance. The fee is based on the valuation of the installation, and shall include the wiring, inverters, transfer switches, solar panels and racking system.

3. **Building Plans.** The building plans shall show all information for the applicable type of PV system:

   - **Ground Mounted:**
     - Provide a drawing that shows configuration and means of connection of the racking system (or poles) and size of the supporting footings.
     - Provide a site plan showing that the furthest projection of the installation will meet the setback requirements for the property.
     - Per NEC requirements, where PV and output circuits operating at voltages greater than 30 volts are installed in readily accessible locations, circuit conductors shall be guarded.

   - **Roof Mounted:**
     - Provide a drawing that shows the racking configuration and the surrounding clearances (must comply with the 2015 IFC).
     - Submit details of equipment weight and racking system.
PLAN REVIEW

Documents required:

1. **Residential (Streamlined) Review.** The anticipated plan residential review turnaround time is three (3) business days. Please provide information as located in the Iowa State Fire Marshal Electrical Bureau PV Worksheet [Standard String Array](#) or [Micro Inverter Array](#).

2. **Commercial (Standard) Review.** Commercial reviews may require additional plan review time and documentation. Please contact the Building Services Department at 319-286-5831 to discuss your commercial solar project.

INSPECTIONS

Solar arrays require the following inspections:

1. **Footings:** If a footing is to be installed, the hole(s) shall be inspected prior to pouring concrete.
2. **Final:** Once the panels are mounted to their supporting structure and all wiring and connections are completed, a final inspection shall be performed.

CHECKLISTS

The following checklists will be a helpful reference for submittal of your plans. Incomplete information may result in plan rejection or delay in the approval of your project.

1. **Site Plan:** For ground-mounted equipment, provide a site plan showing:
   - The location of all disconnects.
   - The location of all modules.
   - The location of inverters.
   - The location and connection of all grounding electrode conductors.
   - The clearances around all equipment.
   - Dimensions between equipment and structures.
   - Dimensions between equipment and property lines.
2. **Wiring Requirements**: Provide a one-line diagram that includes the following information:
   - Conductor sizes.
   - Conductor insulation types (i.e., THHN, THWN, direct burial cable, etc.).
   - Conductor material (i.e., copper/aluminum).
   - Conduit sizes.
   - Conduit material (i.e., non-metallic, EMT, etc.).
   - Over current device ratings.
   - Existing and new panel amperage ratings (buss ratings).
   - Series and parallel configuration of the module connections.

3. **Equipment**: Provide product listing sheets for all equipment with the following information:
   - Module short circuit current ratings.
   - Module open circuit voltage ratings.
   - Module series fuse ratings.
   - Inverter output circuit current rating.
   - Inverter UL listings.
   - All associated documentation (batteries, inverters, disconnects, modules, charge controllers, over-current devices etc.).
   - Method of grounding for modules and array.
Solar Array Application Process

Is the solar array installed on the ground or the roof?

GROUND

Complete these forms:
1. PV Solar Application
2. Ground Array Application

ROOF

Complete this form only:
1. PV Solar Application

Plan review required by:
1. Building
2. Fire
3. Zoning
This can take up to 10 days.

1. Pay for permit
2. Permit issued