



# IDAHO

## DIVISION OF OCCUPATIONAL AND PROFESSIONAL LICENSES

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### RENEWABLE ENERGY AND ENERGY STORAGE SYSTEMS ON-SITE ELECTRICAL INSPECTION REQUIREMENTS

**Who:** Anyone legally performing Renewable Energy and or Energy Storage System installations.

**What:** Electrical Inspections for non-grid connected and grid connected renewable energy and energy storage systems.

**Where:** At the location of the electrical installation.

**When:** At the completion of the installation.

**Why:** To verify compliance with adopted codes, statutes, and rules to ensure electrical installations are installed in accordance with Idaho's adopted Electrical Statutes and Rules.

**How:** In accordance with the following procedures.

To verify code compliance and to avoid delays in having an installation approved it is requested that you provide the following documentation at the time of on-site electrical inspection. (Please provide documentation that is legible and of a size that the Electrical Inspector can read it.)

1. A One-Line Diagram - To include but not limited to the following:
  - The system/s components establishing compliance with the National Electrical Code as adopted by the State of Idaho; to include electrical service equipment, panels, subpanels, optional stand-by panels, stand-alone panels, combiner panels, disconnecting means, transfer switches, J-Boxes, and overcurrent protective devices; to include their type, model, listing, and ratings.
  - All wiring methods including the type, size, listing, and number of conductors and if Free Air and/or the type and size of raceway.
  - The Grounding Electrode System.
  - For renewable energy systems their associated arrays and string/s, configuration.
  - For renewable energy and/or interactive power production/generating systems (Grid Tied), the Point of Connection.
  - Where Service changes and/or upgrades are required and/or done, they shall be done under a separate permit.
  - Manufacturer's Specifications Sheet/s as applicable to include, but is not limited to the following: Modules, Inverters, Optimizers (DC to DC Converters), Rapid Shut

Down System Components, Module Mounting System, Charge Controllers, Energy Storage Systems, DC Combiners, DC Overcurrent Protection Device/s, AC Combiners,

2. Load Calculations in accordance with NEC 220 Part III or IV as applicable for the following:
  - When the Main Breaker is being downsized for the Main Service Panel and/or Sub-Panel, to allow for a Point of Connection in accordance with NEC 705.12 (B) (2) (1) and/or 705.12 (B) (2) (3) is required to be provided to verify compliance with NEC 225.39 and 230.79 as applicable.
  - For the Optional Standby/Stand-Alone Panel to verify compliance with NEC 215.2, 215.3, 408.30, and 408.36 when the system is operating in normal mode. The Load Demand cannot exceed that of what the system can provide (Based upon overcurrent device/s ratings).
  - When an Automatic Transfer Switch is utilized to verify compliance with NEC 702.4 (B) (2).
3. Pictures of installation installed in areas like attics and basements.

The following items are necessary before an inspector can conduct a final inspection:

- The permit holder or its Representative, i.e. dedicated Signing Electrician, Journeyman Electrician, and/or the Limited Installer, or the homeowner that made the installation may be required to be on-site. You will need to work with your inspector for scheduling.
- Point of Connection Installed.
- In-Line Inverter/s Installed.
- Attic Wiring Methods completed with pictures available to the inspector. You will need to work with your inspector for approval of pictures.
- The Module Mounting System installed on the roof and the Bonding and Grounding completed.
- Modules, Optimizers, Micro Inverters, DC Combiners, and DC Combiner Overcurrent Protection to be installed
- Charge Controllers, Energy Storage System/s, Transfer Switches, Generators, Optional Standby and/or Stand-Alone Panels are required to be installed. Your inspector may accept pictures of items not visible during the Rough in/in progress inspection. You will need to work with your inspector.
- All other components and labeling must be completed before a final inspection can be conducted.