



Specializing in Fire, Building, and Life Safety

Corporate Office
2420 Alft Lane
Elgin, IL 60124
P: 847.697.1300
F: 847.697.1310
www.firesafetyfsci.com

Regional Office
23650 Woodward Avenue
Suite 200
Pleasant Ridge, MI 48069
P: 248.545.3330
F: 248.545.3376

Residential Roof-Mounted Solar PV – Plan Review Submittal Checklist

Permit Application

- ☐ Completed building permit application
- ☐ Owner authorization (if required)
- ☐ Contractor license information
- ☐ Project valuation

Site Plan

- ☐ Property address and parcel number
- ☐ Location of residence on the lot
- ☐ Location of all solar arrays on the roof
- ☐ Setbacks from property lines (if applicable)
- ☐ Location of electrical service equipment, meter, and disconnects

Roof Plan

- ☐ Scaled drawing showing panel layout
- ☐ Array dimensions and placement
- ☐ Fire access pathways and ridge setbacks (per local fire code/NFPA 1/IFC)
- ☐ Location of existing rooftop equipment (vents, skylights, HVAC)

Structural Documentation

A. Structural Plans

- ☐ Roof framing plan (existing + proposed modifications)
- ☐ Identification of roof framing materials, sizes, spacing, and spans
- ☐ Mounting system layout showing attachment points

B. Load Calculations

- ☐ Dead load of PV system
- ☐ Live/snow/wind load analysis (per local adopted building code—often IRC/IBC + ASCE 7)
- ☐ Verification that existing structure can support new loads

C. Mounting System Information

- ☐ Manufacturer's product data + installation manual
- ☐ Engineering documentation for racking/attachment hardware
- ☐ Uplift resistance and attachment spacing tables

D. Letter of Structural Adequacy (if required)

- ☐ Signed/sealed by licensed structural engineer

Electrical Documentation

A. Electrical Plans

- ☐ One-line diagram (system configuration)
- ☐ Three-line diagram (for systems requiring it)
- ☐ PV module count, wattage, and type
- ☐ Inverter(s) specifications (AC, DC, microinverter/optimizer)
- ☐ Conductor types, sizes, ratings, and conduit routing
- ☐ Overcurrent protection devices (OCPDs)
- ☐ Grounding/bonding method
- ☐ Rapid shutdown system details (NEC 690.12)
- ☐ Point of interconnection (load-side or supply-side)

B. Electrical Calculations

- ☐ Maximum voltage calculations (NEC 690.7)
- ☐ Maximum current calculations (NEC 690.8)
- ☐ Conductor ampacity + temperature correction
- ☐ Load-side interconnection sizing (NEC 705.12)
- ☐ Supply-side tap sizing (if used)

C. Manufacturer Documents

- ☐ Module spec sheet
- ☐ Inverter/optimizer spec sheets
- ☐ Rapid shutdown equipment data sheets

Fire Safety Requirements

- ☐ Compliant array pathways and setbacks (per local Fire Department or IFC)
- ☐ Fire-resistant roof covering documentation (if required)
- ☐ Labeling plan for system components
- ☐ Fire service access to attic/roof maintained

Utility Interconnection Requirements

- ☐ Completed utility interconnection application (if applicable)
- ☐ Utility approval or "permission to construct"
- ☐ Line diagram matching utility submission

Code Compliance Statements

- ☐ Compliance with adopted building code (IRC/IBC)
- ☐ Compliance with adopted electrical code (NEC/CEC)
- ☐ Compliance with local fire code amendments
- ☐ Compliance with local utility requirements

Additional Documents (as required by local jurisdiction)

- ☐ Roof condition report
- ☐ HOA approval (if applicable)
- ☐ Historic district approval (if applicable)
- ☐ Battery storage system plans (if the project includes ESS)
- ☐ Energy storage ventilation plans (if applicable)
- ☐ Wind exposure category documentation

Installer Information

- ☐ Contractor license and bonding
- ☐ NABCEP certification (if required or beneficial)
- ☐ Contact information for project manager