



HCR Solar Technical Requirements

All solar electric projects subject to the NYS Homes and Community Renewal (HCR) review/approval must meet the following technical requirements. This technical requirement document is specific to net metered solar installations that are directly owned and subject to HCR's Multifamily Sustainability Guidelines.

System Design Life

The solar energy system must be designed to have a 25-year life, at minimum.

Equipment Quality and Durability

All solar equipment (PV modules, inverters, and electrical components) must be commercially available and be listed or recognized by an appropriate safety laboratory, e.g. Underwriters Laboratory (UL).

- **PV Modules:** Solar electric modules must be certified as meeting all applicable standards of the Institute of Electrical and Electronics Engineers (IEEE) and Underwriter's Laboratory (UL) 1703 and detailed in California Energy Commission (CEC) eligible list which can be found on the CEC website or on NYSERDA's contractor portal.
- **Inverters:** Inverters must be certified as meeting all applicable standards of IEEE and UL, comply with New York State's Standardized Interconnection Requirements and meet the requirements of the local utility company.
- **Solar Production Monitoring Equipment:** Data acquisition system must include ANSI C12.20 revenue grade energy production meters (0.5% accuracy).
- **Solar Racking Equipment:** Must be comprised of high-quality outdoor rated equipment and materials.
- **Components:** Solar equipment and connection components must be commercially available to allow for maintenance and/or replacement. All components must be corrosion resistant material.

Warranties

Warranties through the solar installer are required for major system components. These warranties should include the following:

Required Warranties:

- **PV Modules:** Minimum product warranty of 25 years and power production warranty which guarantees at least 80% production at year 25.
- **Inverters:** Minimum warranty of 10 years, with a preference of a 20 year extended warranty
- **Solar Production Monitoring Equipment:** Minimum warranty of 5 years on data acquisition hardware, with preference for extended warranties.
- **Solar Racking Equipment:** Minimum product warranty of 25 years.

Recommended Warranties

- **Workmanship Warranty:** Recommended minimum warranty of 5 years. In accordance with NYSERDA's NY- Sun program requirements, the contractor must provide the purchaser of the solar electric system with a full five-year transferable warranty covering all components of the generating system against breakdown or degradation in electrical output of more than 10% from the original rated electrical output. The warranty must cover the full cost, including labor, repair, and replacement of defective components or systems.
- **Roof Warranty:** Solar installation must be completed in coordination with the roofer/roofing manufacturer in a manner that does not void any existing roof warranty.

Installer Qualifications

- Installer must be a [NYSERDA NY-Sun Participating Contractor](#) in full compliance with all of NYSERDA's NY-Sun Residential/Small Commercial program rules and have a satisfactory average quality assurance (QA) inspection score in the NY-Sun program.
- If eligible, the solar energy system must receive the NY-Sun incentive.



Permits & Approvals

- All applicable building, electrical and utility interconnection approvals must be received prior to solar installation.
- Solar drawings must be stamped by a professional engineer

Comply with All Applicable Codes

- The solar energy system design and installation shall comply with all applicable codes and Authority Having Jurisdiction (AHJ) requirements.

Incentives

- All applicable federal, state and local solar incentives should be pursued and project benefits must be passed to the customer. All HCR projects must follow all program requirements.
 - All projects must apply for NYSERDA's NY-Sun program.

Production Guarantee

- While not required, HCR recommends that projects include a production guarantee in their contract with the solar installer. This production guarantee should include 90-95% of the expected solar production is guaranteed from the installer.

Commissioning

- Solar installations funded by HCR must be commissioned by a third-party engineer. The commission agent must utilize HCR's commissioning checklist and submit a final commissioning report to HCR.

Online Monitoring

- Projects are required to establish and maintain an online platform for monitoring solar system production. Projects must work with their solar installer to set up initial access.

Operation and Maintenance (O+M)

Projects are required to enter into an O+M contract for the life of the solar system, determined to be 25 years. The O+M contract should be with either the solar installer who built the system, or a NYSERDA approved solar contractor. The O+M contract should include the following services:

- **Annual Inspection:** Perform a comprehensive system check, including wiring, inverters and mounting hardware to identify potential issues.
- **Review of Online Monitoring:** Monitoring the output of the PV system monthly to ensure it is functioning at expected efficiency levels.
- **Maintenance Reserve**

Reporting Requirements

- **Benchmarking:** Projects are required to submit annual solar production to HCR alongside energy benchmarking. On an annual basis, projects must submit to HCR monthly kWh solar production for the preceding 12-month period.