



NY-Sun

NYSERDA

NY-Sun Commercial and Industrial Quality Assurance

December 9, 2019



Agenda

- Overview of Quality Assurance (QA) Process
- Where to view the QA Checklist
- Review of QA Scoring
- Responding to Corrective Action Requests (CARs)
- Failure to Comply with NYSERDA's QA Inspection Standard
- Q&A

Commercial and Industrial QA Overview

- Standard QA approach across all sectors
- Standard checklist to be used for all projects
- Uniform inspection score
- New functionality in NYSERDA Portal
 - Greater visibility into inspection results
 - Track inspections that require action

Commercial and Industrial Inspections

- QA field inspections for 100% of projects
- Provisional status contractors:
 - For each project, commercial operation incentive payment will be held pending passing inspection
 - After 3 passing inspections, Contractor may be moved to Full status
- Full status contractors:
 - Incentive payment made at commercial operation
 - Projects that have outstanding CARs will have performance payments withheld until CAR is resolved

Where to view the QA Checklist

Quality Assurance Reference Guides

Our Quality Assurance (QA) program is responsible for inspecting a percentage of all the NY-Sun projects. We have developed the following guidance documents to help you comply with the QA program.

- [What to Expect When Inspected](#) [PDF]
- QA Policies and Procedures Manuals:
 - [Residential and Nonresidential Projects up to 750kW](#) [PDF]
 - [Commercial/Industrial and Nonresidential Projects greater than 750kW](#) [PDF]
- Inspection Checklists:
 - [Construction Photo Resource](#) [PDF]
 - [Field Inspection Reference](#) [PDF]
- The following inspection checklists will go into effect for projects inspected beginning January 2, 2020:
 - [2014 NEC Field Inspection Reference](#) [PDF]
 - [2014 NEC Photo Inspection Reference](#) [PDF]
- The following inspection checklists will go into effect in 2020 (date to be determined):
 - [2017 NEC Field Inspection Reference](#) [PDF]
 - [2017 NEC Photo Inspection Reference](#) [PDF]

www.nyserda.ny.gov/solar-contractor-resources

Review of QA Scoring

Scoring Criteria

The scoring criteria characteristics will be used as a guideline for inspectors to gauge relative installation quality but cannot predict every possible situation. These QA scores will:

- Allow NYSERDA to track trends in installation quality over time
- Allow NYSERDA to gauge the relative quality of installations across installers, regions, or other screening criteria
- Provide valuable feedback to contractors, local code officials, and inspectors

Incidental

An incidental nonconformance is a violation of NEC that does not require rewiring to address and is not expected, on its own, to pose a substantial risk of system failure or hazard.

Examples of incidental nonconformances include:

- Missing screws on indoor enclosure covers, but cover is still secure and renders interior of enclosure inaccessible
- Installation debris (e.g., bits of wire, packing materials) left onsite
- Poor wire management that is not expected to cause a fault condition
- Equipment installed does not match Program records, but is considered equivalent
- Missing/incomplete labels
- Incorrect color code on wires

Minor

Minor nonconformances require rewiring to address but are not expected to pose a substantial risk of system failure or hazard.

Examples of minor nonconformances include the following:

- Conductors are not protected from abrasion as required
- Insufficient clearance around boxes
- Missing/inadequate thermal expansion joints in long conduit runs
- Not adequately protecting conductors from accidental contact by unqualified personnel

Major

Major nonconformances present an increased risk of system failure or hazard but are not determined to be in imminent danger of failure or hazard. As compared with a NEC compliant system, these systems have a higher risk of failing or posing a hazard at some point within their expected lifetime.

Examples of major nonconformances include the following:

- Conductors are not adequately protected from physical damage
- Improper system or equipment grounding
- Bonding neutral to ground in a meter enclosure
- Undersized circuit protection (nuisance tripping)
- Current Transformer(s) are missing, installed incorrectly or do not meet minimum program requirements

Critical

Critical nonconformances present an imminent hazard and/or probability of system failure. These issues should be addressed quickly to prevent injury or damage to property.

Examples include the following:

- Lack of or oversized overcurrent protection
- DC input voltage exceeds inverter maximum input rating
- PV Backfed breaker current rating exceeds ampacity of circuit conductors
- Use of non-DC rated equipment in DC circuits

Scoring logic

Defect Class	QA Score				
	5	4	3	2	1
Incidental	3	Allowed	Allowed	Allowed	Allowed
Minor	0	1	3	Allowed	Allowed
Major	0	0	0	1	2 or more
Critical	0	0	0	0	1 or more

Responding to Corrective Action Requests (CARs)

Field Inspections Requiring Corrective Action

1. All deficiencies are required to be addressed within 30 days of report issued date.
2. Contractor is required to provide proof of corrective action for all Critical and Major deficiencies.
3. NYSERDA will review responses to corrective action and determine if corrective action is acceptable.
4. If NYSERDA staff accepts the corrective action, the deficiency will be marked resolved.
5. If NYSERDA does not accept the corrective action, the contractor will receive notification with a description of why the response was not accepted and will be required to resubmit. The deficiency will remain open until NYSERDA accepts a response.

Procedure for Contesting an Inspection Score

- A contractor may contest the findings of an inspection within 15 days of the inspection report issued date, by marking the failed deficiency(ies) as “contested” in the Portal.
- Upon review, if NYSERDA agrees with contractor, the deficiency will be removed. The inspection score may or may not change based on other deficiencies. If NYSERDA agrees with the inspector, the deficiency will stand, and the score will remain the same.

System Shutdowns

In an emergency, NYSERDA or its representatives may shut down the system. NYSERDA will notify the contractor whenever it takes such action as soon as is possible. In the event an inspector feels a PV system, as installed, presents an imminent hazard to persons or property, the following procedure will take place:

1. Inspector contacts the QA contractor project manager to review critical issues and confirm shutdown decision.
2. Inspector takes necessary steps to safely shut down and secure the system and informs the site operator and system owner/operator, of the decision.
3. Inspector calls the system contractor to notify them of the situation and the shutdown. The contractor is instructed that the system may not be re-energized without corrective action being taken. The contractor may address critical issues before receiving the report.
4. The QA contractor project manager will email notice of shutdown to the NY-Sun Program staff.
5. The QA contractor delivers a report to NYSERDA within three days.
6. The contractor receives the report, who then must coordinate any required reinspection with the local authority having jurisdiction or third-party inspection authority.

Expectations of Full Status Contractors

Full status contractors are required to maintain an average QA score of 3.0 or better and provide timely response to NYSERDA communications and QA corrective action requests.

Effective January 2020, all contractors will have the ability to monitor inspection results directly in the NYSERDA Portal.

Failure to Comply with NYSERDA's QA Inspection Standard

NYSERDA periodically reviews all participating contractor's performance in the Program and may take disciplinary action against the contractor if deemed necessary.

- Failure to consistently complete projects that pass NYSERDA's QA inspection standard
- Failure to respond to or remedy failed inspections
- Failure to meet Program requirements

Disciplinary Action Process

If a contractor is placed on disciplinary action:

- Contractor will receive notification of change in status
- Notification will detail length of disciplinary action, reasons for disciplinary action and will provide a prescriptive action plan
- NYSERDA will request a conference call to discuss reasons for disciplinary action and next steps
- Contractor will be required to abide by terms of the action plan in order to return to Full status in the Program
- NYSERDA will work with Contractor to ensure issues are addressed by monitoring performance during disciplinary action period and periodic check-ins.

Disciplinary action may include a change in status to Probation or Suspension. Failure to abide by the terms of the disciplinary action may result in termination from the Program.



Questions?

Email inspections@nyscrda.ny.gov