



NY-Sun Incentive Program
MONTHLY INSTALLER SUMMARY of May 12, 2016 CONFERENCE CALL

The next conference call will be on June 09, 2016 at 9:00 am.

Guest Speakers

The New code cycle

NYS Department of State

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Mike Mahon 2014 NEC Rapid Response Shutdown

"Rapid Shutdown" (NEC 2014 section 690.12) to be adopted widely in New York on Oct 3, 2016.

This code section dictates PV systems must have a method that enables first responders to initiate a process that, within 10 seconds, will bring all PV conductors, AC or DC, on or in a building that are outside of a 10 foot perimeter of the PV array (5 ft if within the building) under 30 V and 240 VA.

All inverter manufacturers have a method to achieve compliance. Microinverter systems can use main PV system breaker/disconnect to comply if the micros are mounted near modules. DC optimizer systems generally have a direct way to modify their architecture to achieve compliance, so that one or two actions at ground level cause optimizers to go to low power state. String inverter systems can use a "junction box replacement" near the array that can receive a low voltage control signal from a ground level mounted initiation device to separate the array conductors from the inverter.

There are also third party companies, such as Innovative Solar or MidNite Solar, that have been certified by several string inverter manufacturers as approved for use with their inverter hardware to achieve compliance with the requirements of 690.12.

SMA's Rapid Shutdown System consists of a Rapid Shutdown Controller at ground level that triggers an array mounted Rapid Shutdown Box to separate the array from the inverter. In contrast to most rapid shutdown systems for string inverters that are AC powered, and will separate the array from the PV inverter in case of a grid failure as well as purposeful initiation, SMA's solution is DC powered from the array so that in case of a grid outage, the Secure Power

Supply functionality of our residential inverters is not compromised. The Rapid Shutdown System has been thoroughly tested to ensure that it does not interfere with the inverter's ground fault and Arc Fault detection systems.

Product information page link:

<http://www.sma-america.com/products/dc-technology/rapid-shutdown-system.html>

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Operations Updates and Reminders

Update on Long Island GJGNY financing only projects and process

As a reminder, if you are still interested in receiving solar announcements and updates about NY-Sun, you must sign up for our NEW email lists by June 1, 2016. Solar Announcements sent after this date will be sent to the new email list only.

Design Review and Technical Assistance

Approved shading Tools

We have accepted an additional shading tool for use in the NY-Sun program. Aurora uses satellite imagery and LIDAR to generate shading information for sites remotely. You can find more information on their website, aurorasolar.com. Effective immediately, we will accept shading reports from this tool as part of your project applications. The next revision to the Program Manual will list Aurora as one of the approved tools for shading reports.

Events/Miscellaneous

Some contractors are still having difficulties with grounding. Here are a few items to remember.

The GEC (Grounding Electrode Conductor), is the reference ground that establishes the voltage relationships between the ungrounded conductors and earth ground. The GEC must be run with irreversible splices from any separately derived power supply to the grounding electrode. All PV systems with a transformer based inverter will require a GEC from the inverter to the grounding electrode. Refer to 2014 NEC Table 250.66 for the sizing the GEC. Additionally a #6 AWG is the minimum size when run exposed and may be bare or insulated green. When exposed the insulation must be UV protected.

The Grounded Conductor, is intentionally grounded and carries current under normal conditions. It is always insulated and may be white or grey in color. The grounded conductor is often referred to as the "neutral" conductor. Current flows out on the "ungrounded Conductors" and returns on the "grounded conductor" completing the circuit.

The EGC (Equipment Grounding Conductor) does not carry current under normal conditions. It provides a pathway back to the grounded conductor (Neutral) when a fault occurs. The EGC, may include all bonded metal components such as the racking, boxes, enclosures, building steel, and metal roofing materials. Refer to 2014 NEC Table 250.122 for sizing the EGC. The EGC is required on both Grounded, and Ungrounded (AKA transformer-less) systems. Additionally a #6 AWG is the minimum size when run exposed and may be bare or insulated green. When exposed the insulation must be UV protected.

Bonding is the physical connecting of two metal components so that they are at equal potential. They may or may not be grounded. Bonding jumpers may be extensions of the GEC, EGC.

At the main service disconnect(s) and at the over -current protection/disconnects when performing a supply side connection, the GEC, EGC and Grounded conductor must be bonded together.

QA Issues

We have a few reminders about the QA process. When you receive an inspection report with a score below 3, you will also receive a CAR (Corrective Action Response) document which will detail the items that need to be corrected and documented. Minor and Incidental items do not require documentation, but should be corrected. The completed report and any questions or clarifications should be emailed to inspections@nyserda.ny.gov

Please do not contact Cadmus or the inspector with questions. Also note that the inspection report is not a "Punch List" contractors should have in place their own internal quality and commissioning practices. Repeated failure of QA inspections can lead to disciplinary action and or removal from the program.

Remember that per the Program Manual installers are not allowed to have more than 3 open CAR's that are over 30 days old. Doing so puts you at risk for a status change in the Program. If you are unsure whether you have any open CAR's please email inspections@nyserda.ny.gov and we will provide you an update and resend reports if necessary.

It is the contractors' responsibility to manage and keep track of their overall average QA score and open CAR's.

Thank You,

NY-Sun Team

About NY-Sun

NY-Sun, a dynamic public-private partnership, will drive growth in the solar industry and make solar technology more affordable for all New Yorkers. NY-Sun brings together and expands existing programs administered by the New York State Energy Research and Development Authority (NYSERDA), Long Island Power Authority (LIPA), PSEG Long Island, and the New York Power Authority (NYPA), to ensure a coordinated, well-supported solar energy expansion plan and a transition to a sustainable, self-sufficient solar industry. To learn more about NY-Sun, visit ny-sun.ny.gov

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