

# Monitoring and Control Requirements for Solar PV Projects in NY

## Purpose

This document provides the monitoring and control (M&C) for interconnected solar photovoltaic (PV) systems. The M&C requirements in this document are based upon the need for supervisory control and data acquisition (SCADA) connected monitoring and control functions. As the industry matures in equipment offerings, there may be opportunities to leverage recent advances in communicating and configurable “smart” PV inverter technologies, but these functions are presently out of scope for this document.

These M&C criteria shall be applied to all projects in the Coordinated Electric System Impact Review (CESIR) stage, or earlier stages, as of September 1, 2017, and interconnected under the Standardized Interconnection Requirements (SIR) in New York. These requirements shall remain in-place until otherwise noted, however, the Interconnection Technical Working Group (ITWG) is tasked with re-evaluating the validity and need for these criteria in early 2018.

## General Monitoring and Control Requirements

Monitoring, in the context of this effort, refers to near real-time telemetry as well as the reporting of data values, as listed in the following sections.

Similarly, basic control, in the context of this document, refers to remotely changing the status of the device (i.e. trip or resetting of a disconnect device). More advanced control may include changing the protective relaying set points. All M&C subsystems for PV installations shall be connected to the DMS/EMS as operationally required.

Monitoring and control configurations are determined by nameplate specifications of the PV inverter as well as operational needs. The following M&C requirements apply:

Proposed Monitoring and Control Requirements by Size for Solar PV in New York State			
	< 50 kW	Individual or Aggregated 50 kW up to 500 kW	Individual or Aggregated 500 kW and Greater
Monitoring	Monitoring <b>may</b> be required	Monitoring <b>may</b> be required	Monitoring <b>shall</b> be required
Control (PCC Recloser)			PCC Recloser <b>shall</b> be required
Control (RTU)		Basic control <b>may</b> be required	

Table 1: State-wide M&C requirements

Monitoring and control equipment and specifications shall follow the individual utility's requirements. Utilities will have discretion to relax these requirements as necessary based on site-specific conditions.

### Monitoring Specific Requirements

These values represent the most basic monitoring components that can provide situational awareness at the PCC. Additional monitoring points may be needed per individual utility requirements. Monitoring data shall be accessible remotely by the use of communications technology per the utility's protocols.

The minimum required data values at the point of common coupling (PCC) are as follows:

- Per phase voltage and current,
- Three phase values for real (watts) and reactive (VARs) power, and
- Power factor

### Control Specific Requirements

The control portion is defined as the remote trip and block closing of the interrupting device on the PV supply side, as specified by the utility protection, relay, and control scheme implementation. Any solar PV system requiring control shall also require monitoring. The following are general requirements of the control system:

- The PCC recloser or RTU points list shall be mapped in accordance with DNP3, IEC 61850 or ANSI/C37.2 as specified by the utility.
- The RTU, PCC Recloser, or Energy Control Center data retention shall be capable of capturing sequence of event analysis.
- In addition to meeting the monitoring and remote trip and close capabilities, the RTU or PCC recloser must report the status of the disconnecting device.