

Net Energy Metering (NEM): Problem Statement

To Be Approved by the Markets and Reliability Committee

Source of the Issue

At its September 21, 2011 PJM Transmission Owners Agreement - Administrative Committee meeting, PJM presented slides depicting some differences between FERC and the states as to how generation projects are treated depending upon whether they desire to connect to the transmission or distribution systems, and whether or not they intend to make sales into the wholesale market or make sales to their host Electric Distribution Company (EDC) under Purchased Power Agreements (PPAs). With respect to NEM projects, some are quite small (under 1 MW), and current PJM tariffs, manuals, business rules, settlement systems, and zonal bus models are not designed to handle excess generation sales into the market for generation projects of such small size. Several state jurisdictions are rapidly moving forward with NEM tariffs and procedures that are potentially in conflict with PJM's tariffs, manuals, business rules, and settlement systems.

The TOA-AC recommended that PJM charter a new or existing stakeholder group to review existing PJM tariffs, manuals, business rules, and settlement systems to see how to best approach the state NEM programs and to accommodate the NEMs.

Background

Proliferation of renewable energy generation projects, especially solar and wind renewables, has led to growing requests for interconnection from non-traditional sources of generation, often of a much smaller size than what PJM has seen in the past. With individual state jurisdictions encouraging renewable generation of all sizes and shapes, the projects that are emerging do not necessarily fit neatly into existing PJM protocols.

This specific issue relates to NEMs who will generate in excess of their own consumption, thereby effectively injecting excess into the grid, and the manner in which individual states are mandating the handling and compensation for that excess. Also, several states contemplate allowing an Aggregate Net Metering (ANM) treatment of such small projects that is not currently contemplated by PJM settlement systems. Some states are even exploring "Virtual Net Metering" (VNM) whereby the output of such units could be applied to load belonging to the customer that is offsite (not contiguous to the generation facility) and "Community Energy Facilities" (CEF) whereby the output of a common facility is "shared" amongst a group of customers connected to the EDC distribution system, but not necessarily directly to the generating project itself.

ANM, VNM, and CEF and these NEM facilities at the retail generation and load level are in potential conflict with federal policy, certain PJM tariffs, manuals, business rules and settlement systems that deal with load and generation at the wholesale level. These potential conflicts must be resolved so that the wholesale market and the utilities can continue to function smoothly.

We are attempting to preserve the energy accounting equation from a MWh and financial perspective. While we have many state and federal laws/programs coming our way, we must at the end of the day ensure that all MWh, both consumed and generated, are hitting the right market participants' accounts and create mechanisms to ensure this is happening correctly with repeatable results. We must also not impede on those jurisdictions with free competitive markets with potential rules that would hinder customers ability to shop with a retail supplier.

Assigned to Which Group

The recommendation is to request the MRC to approve the creation of a “Net Energy Metering Task Force ” or to assign the work to an existing committee or task force and for the assigned group to report back directly to the MRC. The new task force should coordinate its work with the PJM Market Settlements Subcommittee (MSS) on the PJM settlement and eMTR system issues and with the System Operations Subcommittee (SOS) on zonal bus model issues.

Key Areas for Activity

- FERC / State Jurisdictional issues
- Qualifying Facility clarifications
- PJM Tariffs, Manuals, Business Rules
- Small NEMs selling into the wholesale market
- PJM Zonal Bus Models and Aggregate Net Metering

Expected Deliverables

- Clarify the FERC and state “rules of the road” for these net energy metering (NEM) projects desiring to inject excess generation to the PJM grid, reconciling to the extent possible any conflicts within PJM tariffs, manuals and business rules.
- Make clear the Qualifying Facility (QF) status of certain NEMs and how that impacts their ability to sell into the wholesale market.
- Consider possible modifications to PJM tariffs, manuals, and business rules to handle generator owners who propose a net energy metering unit in excess of its

- load needs and develop bright line rules and requirements for participation in the PJM wholesale market.
- Integrate stakeholder desires and requirements into any proposed PJM settlement system or bus model changes, including business applications and data interfaces.
 - Develop methodologies through which such excess generation sales of smaller NEMs into the wholesale market can be accommodated within PJM eMTR and MSRS systems, and the PJM System Operations zonal bus models that support them, on an Aggregate Net Metering (ANM) basis.
 - Address the concept of Virtual Net Metering (VNM) that has been raised in some state jurisdictions and how, if at all, VNMs might be accommodated within PJM tariffs and systems.
 - Deal with the concept of Community Energy Facility (CEF) that has been raised in some state jurisdictions and how, if at all, CEFs might be accommodated within PJM systems.

Expected Overall Duration of Work:

With the state proposed regulations and tariffs at the retail level coming rapidly, the assigned group should aim to complete its work and recommendations by June 1, 2012. This would facilitate implementing changes that might be needed to the tariffs, manuals, business rules, and systems so that they could be in place, if needed, by the beginning of the 2013-2014 Planning Period on June 1, 2013. Many of the innovative state measures that are currently in various legislative stages will be in effect on or before June 1, 2013.