

**Massachusetts Technical Standards Review Group (TSRG)**  
**Meeting Minutes**  
**Date: March 21, 2019**  
**Location: Unitil, 357 Electric Ave, Lunenburg, MA**

**In Room:**

	<b>Name</b>	<b>Company</b>	<b>Email</b>
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On Phone:

	On Phone:		
1	Nancy Israel	National Grid	
2	Mike Coddington	NREL	
3	Mike Porcaro	National Grid	
4	Shay Banton	Borrego Solar	
5	John Dupont	Borrego Solar	

### 1) Cost estimate detail

- Eversource was previously asked if they could provide the same level of detail in the cost estimates in the ISA that Unitil and National Grid.
- Shakir Iqbal (Manager of DG Engineering at Eversource reported that after consideration Eversource would officially be able to provide a cost estimate along with the ISA that shows a breakdown of cost items related to all construction upgrades in the same manner as National Grid and Unitil.
- Shak committed to submit to the group by the week following the TSRG meeting specific detail that will be provided

### 2) SMART Metering and disconnect Requirements

- National Grid (JED) presented National Grid's installation requirements for the SMART program.

- The presentation is on the TSRG website.
- Jed is now on the Distribution planning group and Tara Reisner is going to take over Jed's responsibilities as they pertain to Metering under the Smart Incentive program
- Meter standards are now on DOER and National Grid Websites
- Behind the Meter (BTM)<60
  - National Grid is allowing meters to be located back on the customer facility with specific permission from metering supervisor as opposed on the pedestal as the standard dictates
  - Need to have a disconnect that can allow Grid to do their testing open between the metering and the inverter
- >500kW
  - If you need an exception on metering you need to involve the operations folks and metering supervisor
- Stand alone
  - Jed said that the three meter lineup is to understand whether the ESS is charging from the PV or ESS
  - Exceptions can be made for certain situations they just have to be specifically requested
  - Mike Conway mentioned there are situations where projects went to construction or were permitted prior to getting clarity on updated metering requirements under Smart
  - Mike C said there seems to be a single meter solution for DC coupled projects but not for AC coupled
  - Tim Roughan said they have not metered DC since 1906

- Mike Conway asked that the Utilities be open to working with Developers on a per project basis to allow for exceptions to new metering standards for projects that are already progressed past construction
- Brett stated that Eversource is looking at this issue as well and determining how the billing will work
- John Bonazoli will be discussing the metering of DC coupled systems with the utility metering groups
- Will Lauwers stated that he hopes there is a way to achieve a workable solution
- Tim suggested to bring specific projects that are at a construction stage that make it cost prohibitive to adopt the new standard and ask for an exception on a per project basis
- Will L mentioned that there were some difficulties with smaller DG customers achieving the required disconnects in place per design
- Jeanie said with regard to the disconnect requirements, what National Grid specifically needs is a physical break which may include a simple switch as long as it meets NEC code
- Unitil Metering presentation
  - John Bonazoli presented Unitil's metering requirements for the SMART program.
  - Unitil will allow the meters to exist inside the customers meter room if there is one
  - Otherwise the smart meter needs to be in the vicinity of the service meter. All meter locations must be approved by Unitil prior to installation.
  - Unitil Disconnects are on the utility side of the meter as opposed to Ngrid which are opposite

- Unitil's Line of demarcation for PV & ESS systems, are different than National Grid. Unitil only requires that the PCC meter be on Unitil Equipment while the ESS and PV meters can be on the customer side of the line of demarcation.
- Mike Conway as a result of this point made a comment that it would be very difficult to implement any type of customer protection scheme that requires calculation of cumulative site export (ex Max Export limiting scheme with National Grid's requirements).
  - This is due to the fact that National Grid will not allow Company equipment to be installed within Customer facility (on customer side of demarcation).
  - There is a significant cost implication for DG customers with the National Grid proposal.
- Jeannie Amber suggested that National Grid may revisit the diagrams
  - DC coupled with two AC outputs - there are metering solutions available for this situation as well

### **3) Pre-application/initial review reports**

- Information accuracy
  - It was mentioned that the information of the Pre-application cannot be compared to the DOER monthly report. These show different aggregate information.
  - Mike B stated that there is still an issue with Eversource's ability to provide Pre-Apps in a timely manner
  - Shakir stated that they are actively building a DG team that should ultimately address the issues

- John asked Mike whether he felt that the pre-app issue can be considered completed.
- Mike B stated that it was difficult to drop the Pre-App agenda item because developers were still having negative experiences with both late pre-app reviews as well as not receiving them at all. He suggested to keep this item for next meeting until the issue is addressed.
- Doug Stated that his firm is also encountering the same issues with Eversource around ability to get Pre-apps in a timely manner
- Gerry Bingham brought up that Utilities are labeling Storage technology in monthly DOER report, a number of ways which makes aggregating information difficult
- DOER is going to send out a proposal with regard to preferred terminology for the different types of technology.
- There was a request by the DG Industry for the Utilities to determine if there was a longer list of Pre-app Data points they could provide in order to potentially allow for less projects to move forward to study and save both parties time and money.
- **Cypress Requested Data:**
  - Current saturation
  - Substation transformer capacity
  - Substation configuration
  - Fault current
  - Transformer banks
  - DG queue on sub on parallel feeders

- The utilities re-iterated that the information that was specified in the tariff is information that does not require engineering effort. This request for more information is in conflict with the request for quicker response. More effort and time would be required to provide any more information that is included per the tariff.
  - **NREL presentation**
    - Zak Peterson gave a presentation (Posted on Website)
    - Zak discussed an industry stakeholder group called DGIC (Distributed Generation Interconnection Collaborative) that is a forum for important DG industry relevant discussion
    - EPRI is leading the DGIC
    - The presentation discussed the benefits of Benefits of Pre-app Reports
    - Covered all the States that have had a pre-app report process
    - The study captured 13 criteria and correlated each state to whether it was provided.
    - FERC Order 792 for small Generators Interconnection Procedure
      - Calls for specific criteria to be provided
      - Kavita confirmed that the listed criteria on the SGIP slide would be very beneficial for Developers
    - Timelines for states to turn around Pre-apps varied between 10 and 20 Business days
    - 8000 applications were found in DOER website
    - It was mentioned that hypothetically Pre-apps could decrease the # of cancelled projects
    - Gerry Bingham asked a questions regarding the Eversource portal

- Brett Responded that Q1 would be the rollout of the Application portal
  - Already rolled out in CT
  - Self-service for projects as well as being a repository for all DG projects
- There will be stakeholder conversations with Eversource to understand what the most desirable functionalities are for the forthcoming ES portal
- Study of Utility Data Suggests Pre-Application Reports Could Boost Interconnection Approval Rates

#### **4) Heat Map / Host Capacity mapping**

- Caleb George presentation
  - RI Portal for System Data
  - Capacity Map maintained by National Grid in RI gives full visibility to their electrical infrastructure
  - Shows substation locations and color coded circuits coming out
  - You can click on a feeder and get that level of data. Also a heat map - shows forecasted loading
    - The heat map is only shows loading information – it is not used for capacity of DG.
    - Allows developers no wires solutions to help alleviate load on feeders
    - Non-wires alternatives opportunity map is also what the heat map is for.
  - Caleb mentioned that he was going to help National Grid (MA) Develop something similar to what RI is going



- Also includes whether 3v0 is included
  - National Grid estimated a cost of \$80,000 for 350 feeders to be set up.  
There would also be an annual maintenance cost
  - Gerry asked whether there was information from the models that were already created during SIS's that could be used to shortcut the process
    - Caleb said they were looking at ways to do just that.
- Eversource CT Hosting Capacity Maps
  - Moving to synergy
  - Use ESRI Platform
  - Provides location based capacity
  - Substation HC based on N-1
  - Has the ability to determine Feeder and Substation capacity so both are considered,
- Notes for both maps:
  - The information on both maps provided for the circuit as a whole. The maps do not show different information at various locations along the circuit.
  - The maps are not updated automatically; the maps have not been updated since they have been created. There is not a plan yet to determine how often the maps will be updated.

## **5) IEEE 1547 subcommittee report**

- Presentation Posted on Website
- Two 2019 meetings have been had and the third was canceled due to a storm
- So far it has been determined that the Reference point of applicability language has been accepted as written in standard
- In process is Enter Service Setting

- Next is Power Quality
- RPA will be applicable at PCC
- Smaller DER's may be at the terminals
- Presentation contains details on this subject
- Enter Service Criteria
  - Still under discussion
  - Typically align with ANSI range B
  - Discussion still taking place whether >600v needs a tighter requirement
  - Default enter service time is 5 minutes
  - Determine the stepwise ramp rate and a randomized delay

#### **6) TSRG Energy Storage Subcommittee proposed update to common standards**

- Mike Porcaro (subcommittee chair) proposed language around the utilization of Max export scheme
- Mike B suggested that the common standard language indicated that there is no standard acceptance of max export and it may be more productive to actively try to align before capturing the lack of alignment on the subject.
- Rather than capture that there is no common standard Mike suggested that subcommittee work to establish common requirements for Max Export between the utilities.

#### **7) Next Steps**

- Developers to provide a list of Pre-app data-points that would be desired at the pre-app stage
- Shakir from Eversource to provide example of 'more granular cost estimate'