MA TSRG Meeting Minutes – 11/28/17

The following individuals were present at the meeting.

Name	**Affiliation**
Michael Brigandi	Borrego Solar
Babak Enayati	National Grid
Michael Porcaro	National Grid
Sam Schlitzer	Solect Energy
Celia Rosenburg	Solect Energy
Moody Demetry	Eversource
Mrunmayee Gujar	Nexamp
Chris Perron	Nexamp
Nachum Sadan	Grid Edge Networks
William Stillinger	PV Squared
John Gajda	Duke Energy
Brian Werts	Duke Energy
Will Lauwers	DOER
Gerry Bingham	DOER
Barry Mather	NREL
Michael Coddington	NREL/Govt Member
David Forrest	ISO NE
Jeannie Amber	National Grid
Keith Jones	Eversource
Steven Casey	Eversource
John Bonazoli	Unitil
Paul Krel	Unitil
Brett Jacobson	Eversource
Cindy Janke	Eversource
Tony Morreale	LIG
Ghebre Daniel	MA DPU
Brian Ritzinger	MA DPU
Nancy Stevens	MA DPU
Shay Banton	Borrego Solar
Dave Moyer	Borrego Solar
Evan Dube	Sunrun

Individuals on Phone

Dave Gahl	SEIA
Steve Wurmlinger	SMA

ISO NE Ride-through Setting Requirements Discussion

- The discussion was opened up by Babak summarizing that the ISO Ride-through Requirements were designed in order to push off Capital investments that will have to be made on the transmission system if ISO cannot count on leveraging Distribution connected assets during transmission events.
- Dave Forrest added that there was a NERC requirement for ISO to model all of the Distribution system if ride-through was not implemented widescale in the near future. As ISO would prefer not to expel the resources to perform this modeling effort the work-around is implementing ride-through settings. In this regard Distribution connected DG could be relied upon to support Transmission reliability during transmission voltage and frequency events.
- Mike Brigandi began a discussion on the challenges the proposed January 1st 2018 date for ISO NE ride-through requirement implementation would bring to Developers and Inverter manufacturers.
- The discussion covered the proposed solutions that have been talked about in past TSRG meetings, ISO Ride-through subgroup meetings as well as email chains. Those as well as their inherent challenges are as follows.
    1) **Installers doing settings**
        a. It would be a liability for Installers to have to go into inverters and change individual setting attributes. Currently this is not being done as the only settings installers change are 'setting groups' which are preset by the manufacturers and are simply activated in the inverter firmware.
        b. A comprehensive training of all installers would also be required
        c. If it were determined that an engineer was needed to make the setting changes this would potentially be cost prohibitive and kill projects.
    2) **Regional Setting Group**
        a. This seems like the best solution, however Inverter manufacturers to not have the resources to create the Setting groups, run through internal qa/qc and test before the January deadline.
    3) **Pre-Existing Setting Group such as 1741-SA**
        a. This solution is not adequate for multiple reasons.
            i. The 1741 SA setting group does not align completely with the ISO ride-through requirements. There would still settings that need changing.
            ii. There are also Additional Functionalities active in the 1741 SA settings that Utilities do NOT want on their system and feedback from Utiliites is that additional mitigation may need to be installed on projects in order to ensure system reliability.
    - Dave Forrest went on to say at this point that 500MW of solar goes in every year and it is unclear how much will begin to affect grid reliability.
    - NERC is assuming that iso is modeling the DER. If der on distribution system is going to trip is must be modeled. Therefore, having ridethrough allows them not to have to model the dg on the distribution system
    - ISO wants this to happen as soon as possible

- Nachum Sadan said this issue came up at he 1547.1 meeting. Perhaps could they only apply the philosophy to large installations?
- There is a requirement for all dg over 300MW to be field adjustable
- Dave said that perhaps there could be a 500MW cap that it applied to only
- Dave Gahl said with regard to phasing in the implementation, this may be reasonable but also delaying the initial implementation is necessary. Dave said that he would talk to his constituents and get back to us with a proposed delay time that may be reasonable.
- Brett suggested that the inverter mfr's use the simplified track as a dead band for the requirement
- Steve Wurmlinger - said most mfr's have the 1547.a default settings most have the ability to be changed
- Dave Gahl – will speak with Mike B offline and determine what makes sense from the Solar industry perspective
- Jeannie Amber said 25kW 3-phase and 15kW single phase is the simplified sizes in MA currently. She asked if most pushback from very small and large projects or just rooftop.
- Dave Gahl said he had heard concerns from larger and smaller projects.
- Jeannie said that everything has required a change for NPCC A2 curve
- Steve W had a concern in that small inverter installers will have to make changes on high volume. Currently the frequency settings have a regional setting group and not small manual changes
- Dave Forrest mentioned that the intent of the new ride-through settings will be for for all of NE not just MA.
- It was mentioned that the actual setting changes will take 30 minutes per inverter once the access code is in hand but the issue is having to change these in volume
- Babak brought back up that that would increase DTT
- Iso is ok with not requiring ride-through for smaller installations
- Mike Brigandi has taken the action item to compose a proposal for the setting implementation process by Dec 8th
- There will be a special meeting to discuss the ridethrough topic on December 13th.
- Dave Forrest – Said they may accommodate a delay in the requirement until June for example such that setting changes are no required before then
- Dave F – said that Jan 2019 is too conservative, but they can perhaps meet in the middle
- Dave F – They could you add a phase in for the simplified specifically
- Moody Demetry suggested to pursue a parallel proposal to the short term and long term solution to working toward a MFR setting group and a shorter term transitional plan
- Need to detail that all pipeline projects need to be developed such that the material transition works with the timeline.
- Mike Brigandi mentioned that the industry folks may take Dave Gahl's proposal and tweak it to more specifically address some of these discussion points.
- Dave said ISO's intention is to establish rideethrough requirements for all of NE

Detailed Study Template Discussion Topic

- This topic was introduced by Mike Brigandi. The previously proposed and discussed Detailed study template was shown again. It was asked of the Utilities if they could commit to the level of granularity of the milestones listed on the template.
- Acknowledgements were given by all MA utilities to the that they can commit to these milestones as part of the detailed study report.
- I was proposed to capture this commitment for the detailed study milestones in the common guideline. This was agreed to as long as there was no specific information with regard to timelines.
- An action was taken to add this into the common guideline.

Initial Review Study Topic

- Shay Banton presented a summary of Tariff required Deliverables from the Initial Review period of the project lifecycle that utilities are not fully delivering on currently delivering on
- One items that took the majority of the discussion time was the fault current at the PCC deliverable. Often Utilities are not giving this to Developers as it is seldom modeled.
- The question was asked how Eversource can give a Stiffness factor but also not have the Fault current at the PCC. The answer was that they can usually get PCC fault current from their CYME system as opposed to ASPEN. It was conveyed from a Borrego perspective that CYME based Fault current at the PCC would be acceptable at this stage in the project.
- Borrego also presented an alternative of providing Fault current at the substation bus along with conductor type along the feeder as PCC fault current can be calculated from that.
- Mike Porcaro agreed but suggested that they give distance, fault at bus and majority conductor type. It may be difficult to provide every span type along the entire feeder.
- Utilities agreed to providing this for all developer projects at initial screen
- Utilities agreed to review our initial review submission and comment by next meeting
- There was limited time after this topic and shay had to Rush through his presentation. Therefore please review the document presented by Borrego Solar as a supliment to this meeting.

Common Guideline Update from Utilities

- Jeannie presented on the common guideline but seemed as though Utilities needed extra time to review and report back. Perhaps there will be a repeat of this item on next month's agenda.
- Nachum suggested that we include permissive technology specifically in the document and more specifically to allow for developer input.
- Gerry Bingham reiterated the purpose of the document that the intent is for utilities to articulate what their current policies are. There would be an opportunity for there to be comments if industry folks are having different experiences than are articulated in the document.

Storage update

- Will Lauwers gave an update on the subgroup discussion
- Challenges are associated with determining how storage will dispatch to the grid
- 3 subgroup meetings have taken place
- They tried to asses how to regard storage from a standard approach perspective
- They are trying to determine much info is needed up front from Developers and utilities
- A standard document was created
- There is an idea to create a castcading application where drop down menu's are added that drive more appropriate questions like size, Standalone or Solar/Storage, etc
- Programmatic participation was discussed
- Details of demand response
- The group has been working at the designation and difference between nameplate and designed output/export.
- They have discussed the affect of changing the storage ramp rates in order to mitigate certain undesired affects to the grid.
- Determining how to quantify whether Dg or storage will export.
- Technical details on how they plan to achieve the altered output. (relays etc)
- New/existing dg or storage. Define operational plan to avoid conservative or worst-case study procedures by the utilities.
- Define differences between nameplate capacity and operating capacity
- Efforts continue to harmonize policy with all stakeholders.
- The subgroup will be continuing to meet

TSRG Leadership

- John Bonazoli will take over as chair starting in 2018
- Mike B suggested to add an individual to representative for the storage industry
- Action item to review bylaws and see if we can add a member to represent the Storage industry

National Grid Solar Phase II

- Samir from Ngrid presented on the progress of their Solar Phase II program
- Please reference the Solar Phase II 11/28/17 Presentation that was posted on the TASRG website.
- CYME has created a smart inverter model. CYME version 8 has the smart inverter model.
- It seems that inverter model this is better than previously available but still has holes in the model.

Open Discussion

- Shay asked a question on the Intial review template. The original established ask remained for Utilities to comment on the document supplied.

Modeling Discussion with Mike Coddington

- Mike Coddington wants to understand how modeling will change in order to accommodate the new IEEE 1547
- This discussion was given by Mike Coddington from the perspective of NREL and not as Gov't Rep for MA
- Matlab Simulink is not useful to utilities, but can be used by specialized vendors for anti-islanding studies
- CYME 8 is better but still needs approval.
- Challenges still exist with the Inverter MFR's and IP rights. They do provide Simulink models at times.
- Jeannie highlighted a gap of a lack of Models for smart inverters
- Synergy, windmill, and cyme are the big three modeling softwares utilities use
- Aspen is willing to model inverters if mfr's provide them a model but this is not happening because aspen refuses to sign an nda because their software is open.
- It was proposed to use open dss while aspen comes up to speed wih the new 1547