

## Massachusetts TSRG Meeting Notes



<b>Date:</b>	March 18, 2024	Meeting held as part of the Massachusetts Technical Standards Review Group (TSRG) for discussion of industry topics and collaboration amongst utilities and the DG community. Meeting minutes are outlined below. If there are any corrections, additions, or omissions please notify the preparer.
<b>Prepared by:</b>	Tony Morreale tmorreale@ligconsultants.com	

### Participants:

Shakir Iqbal (Member – Eversource)	Jorge Jorge
Joh Bonazoli (Member – Unitil)	Jamie Seidl
Michael Porcaro (Member – National Grid)	Jason Bobruk
Mrinmayee Kale (Member - New Leaf Energy)	Jennifer Chalifoux
Brian Ritzinger (Member - DPU)	Jon Beniers
Tony Morreale (Member – LIG Consultants)	Muhammad Khan
Emily Slack (Alternate – National Grid)	Laura Rice
Brett Jacobson (Alternate – Eversource)	Jeff Long
Paul Krell (Alternate – Unitil)	Devon Marcaurele
Gerry Bingham (Alternate – DOER)	Michael DiPanfilo
Abhinav Rawat	Mohamed Shamog
Adam Houghton	Nachum Sadan
Akash Patel	Nancy Israel
Albert Tapia	Natalie Hildt Treat
Jeannie Amber	Nigam Trivedi
Barry Ahern	Melusi Nyoni (DPU)
Mark Bentson	Fritz Octave
Brad Marszalkowski (ISO-NE)	Prasanth Gopalakrishnan
Jeffrey Brooks	Quinn Perry
Travis Carless	Rahul Pantagada
Brandon Carr	Raman Somayajulu
Claire Loe	Richard Labrecque
Corina McCandless	Russ Aney
Courtney Feeley Karp	Ryan McGlothlin
Dabkowski, Daniel	Ryan Rainville
Daniel McDonough	Samer Arafa
David LaPlante	Tim Roughan
Joseph Debs	Wall, Michael T
Doug Denny-Brown	William Kern
Doug Pope	Zach Woogen
Doug Smith (ISO-NE)	
Thomas Ferguson	
Griffin Anderson	
Goodarz Ghanavati	
Glenn Skutt	
Greg Hunt	

## Notes:

### 1. Administrative Items – Mike Porcaro, NGRID

- New Vice Chair appointment
  - Tony Morreale taking over for Mrinmayee Kale as Vice Chair.
- Process Overview
  - See slides for details on proposed new Procedures/Rules of Order.
  - Mike Porcaro, NGRID: Looking to add more formality, allow everyone to be heard, define clear paths forward for topics.
  - Gerry Bingham, DOER: DOER would encourage pre-meeting organization of motions to make meetings streamlined and would like to get assurance the new rules would have an opening for "friendly amendment" of motions.
  - MP: We will be logical about it. As long as it isn't a major change, we can accommodate amendments.
  - Courtney Feeley Karp: How is quorum defined for TSRG?
  - MP: Need to make a decision on number of members needed for quorum. Possibly 2/3 or more than half of members present.
  - MP: Motion to incorporate these changes into the bylaws.
    - Motion passed (Gerry Bingham, DOER voted as alternate rep).
    - **Action: Chair and Co-Chair to incorporate into by-laws and send to membership for review ahead of next quarterly meeting**

### 2. Sub-Committee Updates

- IEEE 1547 Sub-Group – John Bonazoli, Unutil
  - JB: Sub-Group on hold. Last action: issued settings requirement document in Dec 2022.
  - JB: Next item was to be Grid Support Function. EDCs got together, not going to be using functions. May be requesting them case by case. All three EDCs through grid mod effort are putting together Volt-Var Optimization ("VVO") systems. They would conflict. Until we have direct communications to inverters (DERMS/Flexible Connections), no grid support functions.
  - JB: Communication requirements was last item to be addressed. Comms between EDC central to inverter/controller. Recommend passing onto flexible connection group.
  - Russ Aney, Parallel Products: All 3 utilities say VVO is incompatible with Volt-Var ("V-V") curves? Is this an assumption or through testing? Even if utility prescribes V-V curve?
  - JB: Main concern is not that they conflict, but VVO system will need to be able to communicate. Without VVO will need to predict/estimate what inverter will do. Need comms. Unutil is not in a position to implement.

- Shakir Iqbal, Eversource: Do not have an ADMS system yet. For VVO to work, need comms to from substation LTC to inverters.
- Jeannie Amber, Eversource: End of 2025 aiming to test V-V capability with VVO scheme using DERMS.
- Samer Arafa, NGRID: Not ready for this yet. Not optimal to implement now. Solve VVO, get DERMS and comms running, ADMS, then look at V-V.
- Jason Bobruk, SolarEdge: Inverters can do advance functions now. Sounds like a choice rather than a technical issue. Why delay when proven to work?
- SA: V-V curve does no harm, but VVO could end up fighting with inverters V-V curve.
- Richard Labrecque, Agilitas Energy : Will V-V settings be considered as mitigation?
  - JB, Unitol: Not to this point. May be case-by-case.
  - SI, Eversource: Yes. Barrier is the software. Looking to fix now. Will consider.
  - MP, NGRID: Not a standard offering with SIS. Have looked at in some cases.
- The possible use of V-V curves in inverters has not been eliminated.
- **Next Step: Refocus 1547 subgroup to explore use of inverter V-V curves. See how it can be used at least on a case-by-case basis (for system upgrade mitigation purposes rather than market participation).**
  
- Flexible Connections Sub-Group – Jon Beniers, NGRID
  - See slide for details on Mission Statement, Expected Group Output, Team, Major Accomplishments, and Upcoming Activities.
  - JB: Newer subgroup. First few meetings were used to kick things off.
  
- System Impact Study Sub-Group – Michael Porcaro, NGRID
  - See slide for details on Mission Statement, Expected Group Output, Team, Completed activities, and Summary/Consensus.
  - MP: There could be DOER report improvements and better alignment between EDCs. FERC 2023 Order items to be addressed by IIRG.
  - MP: Subgroup closed at this time.
  - Gerry Bingham, DOER: Working on fixing accuracy of reporting and also getting into adding new data columns.
  - Mrinmayee Kale, New Leaf Energy: Did group look at EDC differences for risk of islanding analysis?
  - MP: There was a meeting to discuss. No additional actions from that meeting.
  - MK: Updates on group studies, websites do not provide much information (MW, substations, etc.). Will we get more information? Helps with prospecting in those areas.

- MP: Group study statuses will be discussed later in this meeting. Trying to provide more/better information. Trying to find the best way to present. Some items that need to be addressed are policy (IIRG scope) vs technical (TSRG scope).

### 3. Group Study Status

- Eversource [https://www.eversource.com/content/docs/builders-contractors/tsrg-quartly-group-study-updates-march-2024.pdf?sfvrsn=ea9052e6\\_1](https://www.eversource.com/content/docs/builders-contractors/tsrg-quartly-group-study-updates-march-2024.pdf?sfvrsn=ea9052e6_1)
- National Grid <https://gridforce.my.site.com/s/article/MA-Distribution-Group-Studies>
- Brett Jacobson, Eversource: Presented report.
- Nigam Trivedi, BlueWave: Is this on the Eversource website?
- BJ: Yes. On ASO page.
- Russ Aney, Parallel Products: Link not on distribution group study page. Commend Eversource on details.
- BJ: To be added there and on PowerClerk main page.
- Jamie Seidl, NGRID: Presented website with recent enhancements. There is a map and a report.
- Doug Pope, Pope Energy: Are A1B2 and E5F6 feeders still congested? Do flexible connections help?
- MP: This is data on where the studies are now. Flex connections can alleviate distribution level concerns. Subgroup working through it now.
- RA: Do common study areas change? Note all feeders associated with study areas. Request to add additional columns.
- JS: They are defined now, but they can change. Will update report accordingly.
- Emily Slack, NGRID: Starting point for study area definition aligns with normal distribution planning purposes. 46 study areas defined. If it can be split, we do so when it makes sense.
- NT: It would be helpful to know which substations are impacted for each study.
- John Bonazoli, Unitil: Unitil has no group studies at this time, but will share similar data when needed.

### 4. UL1741 SB Requirement for Bi-Directional Charging Stations – Steve Letendre, Fermata Energy

- See slides for details.
- Steve Letendre, Fermata Energy: Asking for UL 1741-SB waiver for bi-directional EV chargers. Potential 500 kW cap per feeder for non-certified inverters.
- Original Motion: Permit bi-directional inverters to connect with UL 1741-SA certification (non SB certification required). Minimum of 500kW cap on non-certified inverters. No timeframe on expiration.
- Gerry Bingham: Seconded. Original SA requirement was due to ISO-NE request. Intention was to have the requirement for solar only.

- Tony Morreale, LIG Consultants: Defer to utilities, but do not believe that non-SB certified inverters are prohibited from interconnection, just potentially cumbersome requirements.
- Tim Roughan: This is a small amount of capacity in the grand scheme compared to solar.
- Jeannie Amber, Eversource: If SA certified and timebound, conceptually, do not see an issue as long as the size is limited.
- Paul Krell, Unitil: Why are bi-directional chargers behind the solar market? What timeframe are we looking for?
- Glenn Skutt, Fermata Energy: It is a developing market and there are some technical issues (multiple standards, grounding, interface with vehicles, complex). Recommend 24 months on expiration.
- Zach Woogen, Vehicle-Grid Integration Council: SB certification should be focused on solar. California's decision boiled down to the fact that core UL 1741 safety requirements were still being met, just not the smart inverter pieces of SA and SB. In California, the waiver had flexibility, was to be changed when there were enough SB-certified inverters in the market.
- John Bonazoli, Unitil: Do you know what percentage of chargers are certified? Is this for Level 1 and Level 2 Chargers?
- GS: Of the vendors we know who want to do bi-directional, 95% are going for SB certification. This waiver pertains to DC chargers. Level 2 bi-directional chargers are still in development.
- Bret Jacobson, Eversource: Need to be careful with wording to be fair. Need to be clear to Solar customers why this is different.
- Russ Aney, Parallel Products: If industry reps are okay, that goes a long way. Utilities should just consider if it is safe and if it creates an issue for the grid.
- PK: Is this just for vehicle batteries to backfeed? Are unidirectional chargers still available?
- GS: There are stationary storage inverters, but this is beyond this request.
- Shakir: Is there intention to use this for a microgrid application? Does this cover AC chargers?
- GS: Yes. Especially at residential level, but for interconnection agreement, just grid following. UL 1741-SC will cover AC chargers.
- JA: Amend to not include solar.
- TM: Amend to not include stationary energy storage systems.
- TR: Recommend 12/31/2025 for waiver expiration.
- JB: Recommend shortening to 12/31/2024 for waiver expiration.
- TR: Might need more time due to logistics of getting on agenda.
- Doug Pope, Pope Energy: Need more time to allow projects to be developed using these chargers.
- Greg Hunt, Zero Point Development: Should clarify this is for new applications up to the date.
- ***Final Motion: Waiver for new applications through 7/1/2025 to allow bidirectional chargers for EV use to be SA listed (not SB) up to an aggregate of 500kW per distribution feeder (or***

*greater if determined acceptable to the EDC). Requirements for inverters intended for PV and/or stationary energy storage systems interconnection are not subject to this waiver. This waiver may be revisited on 7/1/2025 with opportunity for a one time extension if warranted at that time out to 12/31/2025.*

- Gerry: Second.
- Motion passed unanimously.
- To be posted on EDC websites and an update to SB requirements document.

**5. Underfrequency Response Related to PV Inverters – Griffin Anderson, Neo Virtus**

- Topic moved to next meeting or interim meeting due to time constraints.

**6. Technical Standards Update**

- Mike Porcaro, NGRID: National Grid Published new ESB in January. Nothing hugely impactful. No updates from Eversource or Unitil.

**7. Close Out & Final Discussion**

- Next quarterly meeting scheduled for June 27 1PM-4PM.