

Massachusetts Technical Standards Review Group

Quarterly Meeting

December 10, 2024

**The Massachusetts
Technical Standards
Review Group**



Agenda

- 1:00-1:10** **Administrative Items**
- Chair/Co-Chair Announcements
- 1:10-1:45** **Sub-Committee Updates (~15 min each)**
1. Aging inverter replacements
 2. Flexible Connections Sub-Group
- 1:45-2:15** **Group Study Status (~15 min each)**
- National Grid
 - Eversource
 - CIP Status update
- 2:15-2:30** **Technical Standards Update from EDCs**
- 2:30-3:15** **Common Guideline Review**
- Review process
 - Document review
- 3:15-3:45** **Tariff revision process update**
- IIRG process update and procedural schedule
 - IIRG ESS Subgroup Update
- 3:45-4:00** **Close Out & Final Discussion**
1. Next scheduled quarterly meeting date
 - a. Mar 27 1PM-4PM
 - b. Jun 30 1PM-4PM
 2. Send topics for future meetings to
 - a. Shakir Iqbal (shakir.iqbal@eversource.com)
 - b. Mike Porcaro (Michael.Porcaro@nationalgrid.com)
 - c. Tony Morreale (tmorreale@ligconsultants.com)

Administrative Items

- Refer to TSRG Website for all information related to the group
<https://www.mass.gov/info-details/massachusetts-technical-standards-review-group>
 - Membership
 - By-Laws
 - Reference Documents
 - Past Meeting Notes & Materials
 - Common Technical Guideline
 - Upcoming meeting info and registration link
- For any questions, suggestions, or to get on the mailing list email:
 - Chair Mike Porcaro - Michael.Porcaro@nationalgrid.com
 - Incoming Chair Shakir Iqbal - Shakir.Iqbal@eversource.com
 - Co-Chair, Tony Morreale - tmorreale@ligconsultants.com

Membership Update

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Membership Update

Utility Membership

- Chair: Shakir Iqbal, Eversource East / shakir.iqbal@eversource.com
- Mike Porcaro, National Grid / Michael.Porcaro@nationalgrid.com
- John Bonazoli, Unitil / bonazoli@unitil.com

Non-Utility Membership

- Vice-Chair: Tony Morreale, LIG Consultants / tmorreale@ligconsultants.com
- *Gov/Cust Rep*: Brian Lydic, Regulatory Engineer, IREC / brian@irecusa.org
- *Solar Rep*: Greg Hunt, Zero-Point Development / ghunt@zpeenergy.com

Ex-Officio Membership

- Brian Ritzinger, Lead Engineer, Massachusetts DPU
- Katie Zilgme, DPU DG Ombudsperson

TSRG Equipment Changes Requirements

John Bonazoli

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Facility Revision Application Process

When existing facility equipment is being changed out (e.g. due to age or repair)

- Notice of change and application submittal is required
 - Specify existing and in-service equipment
 - Detail equipment to be changed
- Company processes application and determines the scope of study required
 - Most analysis will be reduced scope
 - Electric system is planned and operated with existing facility
 - Steady State capability is normally not a concern
 - If changes are not Significant, study should be able to be isolated from group studies
 - Anti-islanding (model of inverter) may be a concern

Design and Operational Requirements

- All new equipment must meet present certification requirements
 - E.g. Inverters
 - IEEE 1547 Setting Requirements
 - UL 1741 SB
- Company reviews requirements in existing ISA
 - Determines what revisions are required

Tariff Update

- Recommendation to update tariff to add revision requirements
 - List requirements of application
 - Deadlines of notifications

TSRG Flexible Connections SubGroup Update

Jon Beniers

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Flexible Connections Sub-Group Update

Mission Statement:

Center discussion on the use of technology, improved methods, and products that can enable dynamic management of DER assets on the grid .

As a SubGroup, our primary aim is to define and review Flexible Connections across industry. The goal being to enable DER projects in appropriate areas to interconnect to avoid significant distribution system upgrades, while reducing costs and timeframes associated with the standard interconnection process. This includes defining policy on how curtailment will work for DERs. Success may allow for faster and cheaper integration of DERs by increasing the hosting capacity of existing grid infrastructure and/or increased penetration of DERs to the grid.

Expected Group Output:

Deliverables and actionable next steps to be escalated/reported to the TSRG on the following:

- **Utility Controlled, Flexible Connections** – Use Cases, Thermal Constraints, Foundational technologies, scheduling, economics & markets, curtailment, studies, scaling.
- **Dynamic “Local” Control** – Enabling inverter functionality, Smart Inverter controls & Power Control systems, managing assets via Grid Services.

Bring/communicate any non-technical standard issues or topics to additional groups/DPU.

Team

First Name	Last Name	Company	First Name	Last Name	Company
Gerry	Bingham	DOER	Jon	Beniers	National Grid
Russ	Aney	Parallel Products	Michael	Porcaro	National Grid
Nachum	Sadan	GridEdge Networks	Justin	Woodard	National Grid
Doug	Pope	Pope Energy	Daniel	McDonough	National Grid
Greg	Hunt	ZP Energy	Gerhard	Walker	Eversource
Richard	Labrecque	Agilitas	Ryan	West	Eversource
Nigam	Trivedi	BlueWave	Michael	Taniwha	Eversource
			Jacob	Dusling	Unitil

Summary of Major Accomplishments & Upcoming Activities

Completed Activities:

DATE	DESCRIPTION OF ACTIVITY
12/11/2023	Kick off meeting with SMEs
1/22/2024	Review Flexibility SubGroup Charter, Defining Flexible Interconnections, Developer Feedback on Reporting
3/7/2024	Confirmed working definition and listed out scope
4/12/2024	Alignment on Initial Constraint Criterion (Thermal) and Initial Foundational Technologies (software, hardware/equipment, communication protocols - DNP3/IEEE 2030.5)
5/21/2024	Transmission system capabilities, impacts, & benefits and how this impacts our Flex Connect discussions moving forward. Thermal Constraints Data / Reporting for Viable Circuits – Preliminary List for early scaling.
6/18/2024	Initial IIRG – Flex Connect / DERMS language and deliverable list established for UL 3141, Failsafe items, & Data points
7/22/2024	UL 3141 “Outline of Investigation for Power Control Systems” criteria for equipment standardization – Review of scope, requirements, testing & optional testing. Out for industry review and comment.
9/30/24	Group alignment on carrying over existing IEEE 1547 subgroup scope. As we can move these to Flex Connect, then we can close the 1547 group. – Communications Protocols (DNP3, 2030.5, SunSpec Modbus), Customer Comms, & Grid Support functions
10/21/24	Introduction to defining fail safe mode operation/countermeasures: Communications Failures & Data Points (DNP3)
11/25/24	Advanced/Smart Inverter Functionality Presentation: Brian Lydic (IREC), Nachum Sadan (GridEdge Networks), and Jeffrey Albus (Eos Energy Enterprises)

Upcoming Activities:

	Define fail safe mode operation/countermeasures
	Develop operation requirements to address voltage issues
	Eversource to share recent Flex Connections Pilot

Group Study Status

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Group Study Status Update

- The EDCs have provided the below links for Group Study status updates
 - Status is updated monthly
 - Intended to be generally informative on Group Study timeline expectations
 - Included here for reference and general discussion, however Group specific questions may need to be deferred to a separate Group specific forum
- Eversource
 - <https://www.eversource.com/content/residential/about/doing-business-with-us/interconnections/massachusetts/distribution-group-studies>
- National Grid
 - <https://gridforce.my.site.com/s/article/MA-Distribution-Group-Studies>

Technical Standards

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EDC Technical Standards

- As needed, EDC technical standards may be updated
- Below is general discussion for awareness of major elements that may have been changed/amended/added within the last 12 months

Eversource (October 2024)

- October update, Section 1.6 for DER gateway
- Isolation of DER, loss of comms, etc
- Section 2.18 – SCADA points for reporting to the Company

Unitil (May 1, 2000)

- No new updates – planning to update Q1 CY2025
- Adding detail

National Grid (January 2024)

- No new updates

National Grid Flexible Interconnections Program

- Website with full information:
 - <https://gridforce.my.site.com/s/article/ACTIVE-RESOURCE-INTEGRATION-ARI-FLEXIBLE-INTERCONNECTIONS-PILOT>
- Seeking interest from solar cases and storage cases, for both ARI and Local Power Controllers
 - **ARI**
 - [Energy Storage ARI Pilot Criteria & Eligibility Requirements](#)
 - [Solar ARI Criteria & Eligibility Requirements](#)
 - **Local Power Control**
 - [Local Power Control Participation Guidance](#)
- To submit a request for pilot consideration a customer must:
 1. Review pilot eligibility requirements to self-assess whether the application is a possible candidate
 2. Prior to **2/28/2025** send an email to NationalGridARI@nationalgrid.com to submit a request for consideration. Example requests language and content listed on the website.
 3. Once received, the application will be added to the possible candidate pool for consideration by National Grid. Requests received on or after **2/28/2025** will not be considered.
 4. National Grid will provide responses to all requests in as timely a manner as possible, indicating denial or acceptance into the pilot.

Common Guideline Review

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Common Guideline Review

- Current version:
 - <https://www.mass.gov/doc/tsrg-common-guideline-2022-12-22/download>
- Section Topics
 - Anti-Islanding
 - Direct Transfer Trip
 - Feeder Limits
 - Remote Monitoring/Control
 - PCC Reclosers
 - Witness Testing
 - Power Factor
 - GSU Transformer
 - Utility grade relaying
 - Flicker
 - Spot/Area Networks
 - Substation reverse power flow
 - Energy Storage
 - Significant vs Moderate
- Next steps:
 - Document review by membership
 - Proposed edits/updates sent to Chair/Vice Chair by 2/28/25
 - Discussion at March quarterly TSRG meeting

IIRG Proposed Tariff Revisions Update

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IIRG Process for Tariff Redline Coordination

- Cross functional group
- Targeting
 - Simplified
 - Section 3.1
 - Figure 1 – Simplified
 - Expedited
 - Section 3.3
 - Figure 1 – Expedited
 - All tracks
 - Section 4.3 – New section for Import/Export limiting requirements
- IIRG membership listed on [IIRG website](#)
 - Participation in the process is encouraged
 - Please coordinate comments/edits through your respective IIRG representative member

Appendix

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Procedures – Rules of Order

- Raise hand to be recognized by the Chair (right to speak)
 - Hand raises to be recognized in order
 - All welcome to speak at this point (members and non-members)
- You want to bring up a new idea before the group.
 - After recognition by the Chair, present your motion. A second is required for the motion to go to the floor for discussion, or consideration.
 - Making the motion is intended to be brief. Discussion/substance on the topic follows
 - Ex. Speaker states *“I make a motion to adjust the site MW size requiring reclosers from 500kW to 1MW in the Common Guideline”*; Someone else says *“Second”*
- Chair states the motion on the floor and opens discussion for all
 - Only one motion will be discussed at a time
 - Ex. Chair states *“A motion has been made to adjust the site MW size where reclosers are required from 500kW to 1MW. Please proceed with discussion”*

Procedures – Rules of Order

- No member can speak twice to the same issue until everyone else wishing to speak has spoken to it once.
- Members who *repeat* comments or arguments will be ruled out of order.
- When there has been enough discussion
 - Make a motion to close the debate. Also referred to as “calling the question”. This cuts off discussion and brings the assembly to a vote on the pending question/motion only.
 - Called naturally when Chair recognizes that all discussion has stopped
 - Ex. Speaker states *“I move to close the discussion”*
- Once discussion is closed, move to vote:
 - Ex. *“All those in favor of the motion on the floor, which is to adjust the site MW size where reclosers are required from 500kW to 1MW, please raise your hand”*
 - Requires a 2/3rds vote to pass

Procedures – Topic Identification

- Each topic brought up must focus toward either:
 - Update Common Technical Standards (CTS), as repository of consensus items coming from TSRG discussion
 - Shorter term issue requiring resolution, not fundamental practice in CTS
- Pre-Meeting Topic Submission
 - Submit in writing to Chair & Co-Chair 3 weeks prior to quarterly meeting to appear on agenda
 - Submitter presents on the topic with clear:
 - Background on issue of concern
 - Ask for resolution/actions/next steps
 - Discussion amongst all present at TSRG (members and non-Members)
 - Vote by membership at conclusion of discussion for next steps/consensus

Procedures – Sub Groups

- Where a topic has non-consensus, warranting additional investigation, subgroups may be formed
 - Following a non-consensus outcome after topic discussion, any person (member or non-member) may propose that the topic be taken to Sub-Group
 - Person proposing must state the proposed sub-group direction/purpose
 - Of those in attendance at the quarterly meeting, a minimum of 5 individuals (members or non-members) must volunteer to support the sub-group in order for it to proceed
 - If less than 5, then the topic is logged in a tracker as “unresolved”
 - Sub-Group lead(s) must be identified at the time of subgroup creation
- Sub Group scope must be achievable before next quarterly (~3 months)

Procedures – Summaries

- Whether the topic comes from the quarterly meeting or from a sub-group, the discussion will be summarized in meeting minutes or in a separate summary document. Summarization to generally include:
 - Definition of topic discussed
 - Group activity in working through the topic
 - Group consensus items
 - Group non-consensus items, including stakeholder positions
- Summaries to be assembled by
 - Quarterly meeting topics: Chair/Vice Chair
 - Sub-Group topics: Sub-Group Lead

Procedures – Summaries

- Summaries to be shared with TSRG membership at least 2 weeks prior to quarterly meeting
 - To be voted on by membership at quarterly (2/3 vote to pass)
 - “Approval” of summary signifies that TSRG is in agreement with it as written
- For Sub-Group summaries that may be of an urgent nature, warranting vote prior to the next scheduled quarterly:
 - Sub-Group lead(s) to notify Chair/Vice Chair
 - If expediting of the vote is warranted, Chair/Vice Chair to organize interim meeting and/or impromptu vote via email amongst membership