

Massachusetts Technical Standards Review Group

Quarterly Meeting

March 29, 2023

**The Massachusetts
Technical Standards
Review Group**



Agenda

- 1:00-1:10** **Opening Comments**
- 1:10-2:10** **Sub-Committee Updates (15 min each)**
1. ESS Ramp Rates & Schedules Group
 2. IEEE 1547 Group
 3. Area Networks Group
 4. Expedited Pathway Group
- 2:10-2:30** **Update Items**
- Group Study update – Including CIP status
 - Utility technical standards discussion
- 2:30-3:00** **Old Business – Open Items from Previous Meeting**
- Revised Simplified Process Tariff proposal – Russ Aney (Parallel Products)
- 3:00-3:55** **New Business – New Items Not Previously Discussed**
- Eversource ESS policies and technical standards
 - Transmission Analyses
- 3:55-4:00** **Close Out**
1. Call out the next scheduled quarterly meeting date
 - a. Jun 14, 2023 1PM-4PM
 - b. Sept 14, 2023 1PM-4PM
 2. Send topics for future meetings to Mike (Michael.Porcaro@nationalgrid.com) or Mrinmayee (mkale@newleafenergy.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 - Michael.Porcaro@nationalgrid.com
 - Co-Chair - mkale@newleafenergy.com

Reminder on Conduct

Per bylaws, members shall:

1. Attend meetings or send alternates
2. Acknowledge/embrace various points of view
3. Participate in “good faith” discussion – forthright and communicative
4. Keep your organization informed about TSRG discussions
5. *“No member of the TSRG shall speak on behalf of the TSRG without the unanimous approval of the TSRG members.”*

TSRG Energy Storage SubGroup Update

Mike Porcaro

**The Massachusetts
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Energy Storage Sub-Group Update

Mission Statement:

Establish clear criteria surrounding ESS schedules & ramp rates. Consider customer impacts (negative and positive) to site operation, initial interconnection costs, market participation impacts, and long term revenue impacts. Consider technical impacts (negative and positive) to the safety, reliability, and long term system operation/maintenance.

Expected Group Output:

Agreement on ESS study & operation as it relates to ESS schedules & ramp rates. Elements that are common to all EDCs will be incorporated into the TSRG Common Guidelines, and will reference EDC standards for elements that are unique.

Following the outcome of this sub-group, project performance will be monitored, possibly requiring future adjustment.

Team

First Name	Last Name	Company	Affiliation
Michael	Porcaro	National Grid	EDC
Emily	Slack	National Grid	EDC
Gerhard	Walker	Eversource	EDC
Shakir	Iqbal	Eversource	EDC
Justin	Ulrich	Unitil	EDC
John	Bonazoli	Unitil	EDC
Kavita	Ravi	Blue Wave	Industry
Mrinmayee	Kale	Borrego	Industry
Greg	Hunt	Zero Point	Industry
Amit	Barnir	Kearsarge	Industry
Matt	Parlon	Ameresco	Industry
Gerry	Bingham	DOER	DOER
Brian	Lydic	IREC	Gov/Cust
Pierre	Journal	Engie	Industry
Jeff	Long	Engie	Industry

Summary of Major Accomplishments & Upcoming Activities

Completed Activities:

12/7/2021	Kick off meeting with SMEs
3/24/2022	Sub Group status report at TSRG quarterly meeting
5/5/2022	EDC examples/explanation of challenges with capacity reservation for ESS & impacts to daily system control/operation & planning efforts
6/2/2022	ESS study process proposed by EDCs to the group
8/4/2022	Final coordination and agreement on ESS study process
12/22/2022	Common Guideline updated to reflect ESS study process
3/7/2023	Exploring new technology solutions (ARI, PCS/PPC)

Upcoming Activities:

	Discussion on study supporting standard ramp rate values
	Potential safety and reliability impacts related to ramp rate
	Power control system capabilities to potentially address concerns
	Update Common Guideline to reflect ESS Study agreement

TSRG 1547 Update SubGroup Update

John Bonazoli

**The Massachusetts
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IEEE 1547 Sub-Group Update

Mission Statement:

Establish clear criteria of requirements and default settings for usage of grid support functions set forth in IEEE standard 1547 - Standard for Interconnection and Interoperability of Distributed Energy Resources with Associate Electric Power Systems Interfaces.

Expected Group Output:

- (1) Default settings for requirements specified in IEEE 1547
- (2) Investigate usage and concerns of various modes of operation for Grid Support
- (3) Create guidelines for Grid Support Functions
- (4) Create requirements for communications between Facility interface and EDC central monitoring system

Team

First Name	Last Name	Company	Affiliation
John	Bonazoli	Unitil	EDC Rep/Chair
Mrinmayee	Kale	New Leaf Energy	DER Rep/ Vice-Chair
Mauhammad	Khan	Eversource	EDC Rep
Paul	Krell	Unitil	EDC Rep
Nathan	Walsh	National Grid	EDC Rep
Mina	Moawad	Eversource	EDC alt rep
Ruvini	Kankanamalage	National Grid	EDC alt rep
Joseph	Debs	Eversource	EDC alt rep
David	Ferrante	Eversource	EDC alt rep
Devon	Marcaurele	Eversource	EDC alt rep
Jeremy	Kites	Unitil	EDC alt rep
Tony	Morreale	LIG Consultants	DER Rep
Mike	Wall	NexAmp	DER Rep
Brian	Lydic	IREC	Cust/Gov Rep
Brad	Marszalkowski	ISO-NE	ISO Rep
Aurora	Edington	DOER	Cust/Gov Rep

Summary of Major Accomplishments & Upcoming Activities

Completed Activities:	
5/9/2022	Finalized Requirements document
9/12/2022	Presenation of NY Grid Support functions
9/12/2022	Presenation of impact of Grid Support functions on Risk of Islanding
7/30/2022	Created scope/mission of communications task force
12/12/2022	Revised deadlines for Default Setting Document
1/15/2023	Finalized membership of Communications Task Force
Upcoming Activities:	
3/1/23	Format Scope of EDC Requirements for Grid Support Functions
TBD	EDC's to study concerns of Volt/VAR
TBD	Finalize Grid support requirements and settings

IEEE 1547 Sub-Group Update

#	Item	Relates to	Type	Resp. Person	Resp. Affiliation	Resp. Company	Due Date	Complete Date	Notes
1	Set up Communications Teams	Create communications requirements	Action	Bonazoli	EDC	Unitil	7/30/2022	7/30/2022	
2	Presentation on NY Grid functions	Research Grid Support functions	Decision	Kankanamalage	EDC	National Grid		9/12/2022	Con-Ed presented default advanced functions adopted by NY Joint utilities
3	Presentation on Risk Of Islanding impact of inverter advanced functions	Research Grid Support functions	Decision	Kankanamalage	EDC	National Grid		9/12/2022	Study results show no indication that advanced inverter control functions have significant impact on island run-on times.
4	Finalize representation membership of communications task force	Create communications requirements	Decision	Bonazoli	EDC	Unitil		1/15/2023	
5	Formulate Communications Task Force Scope	Communications	Action	Task Force	Other		10/27/2022		Need to better define the scope and effort of the Communications task force
6	Format scope (questions) for EDC requirements	Research autonomous Grid Support functions	Decision	Kankanamalage	EDC	National Grid		2/1/2023	
7	Create guidelines for Grid Support Functions	Research autonomous Grid Support functions							

TSRG Area Networks SubGroup Update

Dan Mungovan

**The Massachusetts
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Area Networks Sub-Group Update

Mission Statement:

Identify system challenges for DG interconnections to area networks (per IEEE 1547 definition), which differ from radial systems. Identify amount of service territory served by area networks from each EDC to reference overall territory impact. Explore opportunities for alternative analyses and possibilities for increasing connection capabilities.

Expected Group Output:

Agreement on the requirements and means of analysis for connection of distributed generation to area networks. Elements that are common to all EDCs will be incorporated into the TSRG Common Guidelines, and will reference EDC standards for elements that are unique.

Following the outcome of this sub-group, system and project performance will be monitored, possibly requiring future adjustment.

Team			
First Name	Last Name	Company	Affiliation
Dan	Mungovan	Eversource	EDC
Mohamed	Shamog	National Grid	EDC
Tyler	Thibault	Eversource	EDC
Shakir	Iqbal	Eversource	EDC
Fritz	Octave	Eversource	EDC
Michael	Costa	Eversource	EDC
Jeremy	Kites	Unitil	EDC
Justin	Ulrich	Unitil	EDC
John	Bonazoli	Unitil	EDC
Russ	Aney	Avid Solar	Industry
Jens	Foyer	Nexamp	Industry
Gerry	Bingham	DOER	DOER
Brian	Lydic	IREC	Gov/Cust

Milestone Summary	
Completed Activities:	
12/14/2022	Kick off meeting with SMEs
03/01/2022	Sub-Group status report at TSRG quarterly meeting
06/29/2022	EDC members met with Consolidated Edison
09/2022 – 03/2023	Sub-Group meeting on Hold
Upcoming Milestones & Activities:	
03/01/2023	Current State Processes analyzed

Area Networks Sub-Group

- The Subgroup pause Sept 2022 - March 2023.
- First Subgroup meeting after the pause is scheduled on 04/19/2023 at 10:00 AM.
- Read out from each MA-EDC on their assessment over the last six months will be provided at the scheduled subgroup meeting.

TSRG Expedited Process SubGroup Update

Quincy Vale

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Expedited Process Sub-Group

- Lead: Quincy Vale
- Members
 - 6 industry representatives
 - 3 EDC representatives (1 from each company)
 - Others welcome to join upon request
 - TSRG membership overall to be engaged via quarterly meeting updates
- Group focus
 - Consider technical characteristics of projects that may/may not allow the Expedited process
 - Consider electrical characteristics of the system that may drive study need
 - Consider technical criteria that may qualify a project to stay on the Expedited track

Updates

**The Massachusetts
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Group Study Update – National Grid

Disclaimer: Information provided solely intended as an aid to discussions at the TSRG and should not be used for any other purposes and is subject to change. Nothing contained in this presentation shall constitute legal or business advice or counsel.

Territory	Group Study ID	Qty of Applications	MW	Status
West	Webster-Southbridge-Chrlton 001	12	75.46	GS complete, ISAs delivered
West	Millbury-Grafton 001	2	10.99	GS complete, ISAs delivered
West	Ayer-Clinton 001	3	22.94	GS complete, ISAs delivered
West	Barre-Athol 001	10	40.98	CIP, DPU docket 23-09
West	Gardner-Winchendon 001	8	46.36	CIP, DPU docket 23-06
West	MPL-East 001	9	34.79	CIP, DPU docket 22-170
West	Shutesbury 001	5	19.99	CIP, DPU docket 22-61
West	Spencer-Rutland 001	12	61.71	CIP, DPU docket 23-12
Central	Worcester South & North 001	6	15.79	GS start 8/3/2022; ASO expected, start TBD
Merrimack Valley	Billerica 001	3	14.10	GS start 7/25/2022 ; ASO expected, start TBD
Merrimack Valley	Chelmsford/Westford 001	3	16.90	GS start 8/1/2022; ASO expected, start TBD
Merrimack Valley	Methuen/Haverhill 001	6	25.50	GS start 8/31/2022; ASO expected, start TBD
Merrimack Valley	North Andover 001	3	15.00	GS start 7/19/2022; ASO expected, start TBD
Merrimack Valley	Tewksbury 001	2	16.99	GS start 7/26/2022; ASO expected, start TBD
North Shore	Beverly 001	2	10.00	GS start 8/29/2022; ASO expected, start TBD
North Shore	Cape Ann 001	3	15.00	GS start 7/26/2022; ASO expected, start TBD
South	Attleboro 001	3	7.26	GS start 11/2/2022; ASO expected, start TBD
South	Hanover 001	7	30.00	GS start 8/1/2022; ASO expected, start TBD
South	Hopedale-East 001	11	40.78	GS start 6/27/2022; ASO expected, start TBD
South Shore	Bridgewater 001	2	9.90	GS start 8/1/2022; ASO expected, start TBD
South Shore	Brockton-North 001	2	11.14	GS start 6/14/2021; ASO start January 2023
South Shore	Brockton-South 001	6	25.34	GS start 10/24/2022; ASO expected, start TBD
South Shore	Scituate 001	2	10.00	GS start 5/20/2022; ASO expected, start TBD
Southeast	Fall River-North 001	3	10.48	GS start 8/3/2022; ASO expected, start TBD
Southeast	Fall River-South 001	5	11.70	GS start 7/25/2022; ASO expected, start TBD
West	Ayer-Clinton 002	10	31.40	GS window open, close date 3/23/2023
West	MPL-Northwest 002	5	18.92	GS start 12/22/2022; ASO expected, start TBD
West	Webster-Southbridge-Chrlton 002	13	42.30	Scoping meeting 2/17/23; Finalizing group membership
West	Millbury-Grafton 002	10	19.50	Scoping meeting 2/17/23; Finalizing group membership
South	Hopedale-West 001	9	28.36	GS start 8/24/2021; ASO start July 2022

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 (January 21, 2020)

- No Update

National Grid (January 1, 2023)

- Section 4.0: UL1741SB requirements
- Section 7.3.2.1: Projects with SB inverters may have option of avoiding supplemental grounding with a wye-wye interface transformer

Unitil (May 1, 2000)

- No Update

Energy Storage Policies - Eversource

- Separate presentation by Eversource

Last meeting

- Simplified Process
 - Building on previously developed material associated with past DPU docket
 - Russ Aney (Parallel Products) presentation

Transmission Analyses

- ESS seasonal schedules
 - How these are considered in the context of T-study
- Acceptable solution consideration
 - Operational solutions (NWA) vs. wood-and-wires solutions

Closing

- **Next meetings**
 - Mar 15, 2023
 - Jun 8, 2023
- **Please send any topic requests for future meetings to Chair and/or Vice Chair**
 - Michael.Porcaro@nationalgrid.com
 - mkale@newleafenergy.com