

Massachusetts Technical Standards Review Group (MTRSG)

Chair: Babak Enayati, National Grid

Vice-Chair: Michael Conway, Borrego Solar Systems

MTRSG Regular Meeting

Date: Sep 23, 2015

Time: 9AM-3:30PM

Location: National Grid

40 Sylvan Rd.

Waltham, MA 02451

Room: P(25) W2.812 - GRANITE

Babak Enayati, NGRID

Mike Conway, Borrego Solar

Reid Sprite, Source One

John Bonazoli, Unitil

John Teixeira, NGRID

Paul Krell, Unitil

Laura Bickel, NGRID

Nancy Stevens, DPU

Jeannie Piekarz, NGRID

Gerry Bingham, DOER

Mike Coddington, NREL

Carter Wilding White, CEC

Mike Brigandi, Eversource

Tim Roughan, NGRID

Brian Ritzinger, DPU

Bob Andrew, Eversource

Via phone:

Sky Stanfield, IREC

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Agenda

1) The meeting kick off by Babak and introduction 9AM-9:10AM

Babak to remain on as chair

2) IEEE 1547 revision status update 9:10AM-9:25AM

Next meeting Tempe, AZ

Power Quality draft is complete

- GE flicker curves may still be used during Impact Studies - draft language is more applicable to assigning accountability once a system is operational
- Pst and Plt units may be used in Impact Studies, but modeling methods are not discussed explicitly in 1547

Harmonics, tOV, reactive power capability language presented

Overfrequency freq-watt control is also being discussed as part of voltage ride through sub group

3) Discussion on the utility-provided guidance on typical EPS modification costs 9:25AM – 9:40AM

Action item: Utilities to review for next meeting

Question of whether the cost estimates are valid for TSRG scope - Mike Conway action item

4) NREL Report on Inverters' Ground Fault Over Voltage and 9:40AM to 10:30 AM
Load Rejection Over Voltage

LROV and GFOV NREL reports

Wye-g x wye-g transformers, with no grounding bank, do not cause GFOV for grid faults (per report, assuming balanced load)

Delta x wye-g transformers, with no grounding bank, can cause GFOV if the anti-islanding detection (internal to inverter) is disabled

NREL following up with truncated version of studies, more digestible.

5) Break 10:30AM – 10:45 AM

6) Supplemental Review Voltage/PQ and Safety/Reliability Screens 10:45AM-12PM

NREL, EPRI, Sandia working on refined supp review screens for CA IOUs - Mike Coddington to circulate when complete

Can a non-exporting CHP get through expedited without an SIS?

MB - a generator doesn't need to be able to supply load to a line segment in order to energize it. It can be energized without supplying power to it.

Eversource stiffness factor table and values presented and reviewed

Isc / Idg

Other DG on the feeder can contribute to high Isc, as a result, adjacent DG's aren't considered in the calc.

Sole DG on feeder, stiffness > 100 can typically stay in Supplemental Review

Mcoddington slides - stiffness factor

>100, very low penetration

50-100, moderate penetration

< 50, high penetration

7) Lunch 12PM-1PM

10) Q&A on each utility's interconnection guideline 2:10PM-3PM

EVERSOURCE INTERCONNECTION STANDARDS

Reid comments:

- GE curve has suggested use, but isn't explicitly called out in standard

- No synchronous gen on low side of area network system? Concern for CHP
- Can this language technically be in the standard? Premature to close the door indefinitely.
- Break-before-make generators, back-up use, doesn't need to be include. Doesn't need an interconnection application
- Language regarding future changes and responsibilities - leaves the door too open for future charges to customer
- Interconnection and isolation transformers required. If gen is at grid voltage, this should be waived.

MC comments:

- 4.2.2 Redundant relaying requirements > 500kW? TSRG guideline says 1MW.
- 4.2.9 and 4.4 - No relaying VTs on secondary side of GSU? Understandable for 59N with Delta x wye, but true for 27/59 with Wye x wye. MB Low side VTs CAN be used with wye wye
- 4.2.9 language is good - mentions ungrounded xfmr

Mike Brigandi - action item to incorporate comments

NATIONAL GRID ESB UPDATES

- Document is in administrative approval.
- **Action item for December meeting.**

UNITIL

- Draft is still in rev and approval. Xfmr configurations and grounding is a sticking point
- **Action item for December meeting.**

8) Significant vs moderate change 1PM-2PM

- Draft language reviewed and edited by the group
- **TSRG recommendations to be submitted to department. Babak Action item**

9) Break 2PM – 2:10PM

11) National Grid Solar Phase II program update 3PM-3:30PM

- Jorge Valenzuela & Justin Woodard to present
- Ngrid sites may be a research tool going forward for demonstrating GFOV with a wye x wye

Next meeting Dec 3 - Worcester or Southborough

Q for Nancy

- Significant vs Moderate, how should recommendation be formatted?
- A: Sarah Herbert, hearing officer

Adjourn – 3:05pm