NPCC Regional Standard Webinar
PRC-002-NPCC-01 DME and
PRC-006-NPCC-01 UFLS
July 9, 2013

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7/10/13: Rev 1 posted to clarify/correct dates on slide 20
7/11/13: Rev 2 posted to clarify Generating Plant in FR R4 and A10 in #2 on slide 8
NPCC Website

• Regional Standards on NPCC Website
• Standard
• Implementation Plan
• Interpretations
• Development History
NPCC BOD Approved Standards

The following NPCC Regional Standards have been approved by the NPCC Board of Directors (BOD) and have been submitted to NERC for BOT, FERC and the appropriate Provincial filings and approvals. For more information regarding effective dates, or other information, please click on the NERC ERO links below:

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Overview PRC-002-NPCC-01

• October 20, 2011: FERC approved a 4 year Implementation Plan with staggered dates for mandatory compliance
• 50%, 75%, 100% completion milestone dates
• Facility basis, Data Point basis
• Implementation Period ends: October 20, 2015
Purview of PRC-002-NPCC-01

• As of October 20, 2011, the pool of NPCC BES Assets in scope:
  = A10 Transmission Elements PLUS Generation that meets CGS-002

• The recent CGS-005 offers clarification to owners of newly identified assets as a result of applying revised BES definition

• Current NPCC BES Assets >>> stay on course with existing Implementation Plan
Location of CGS

- **NPCC Compliance Guidance Statements**
- Go to NPCC Website
  - Click “Compliance” tab
  - Click “Documents” tab
  - Click “Compliance Guidance Statements” tab
DME: Specific to TO

• Sequence of Events: R1 – The requirement to install/acquire SOE is associated with your A10 busses only

• Fault Recording: R2, R3, R5, R6 are associated with elements connected to your A10 busses only
DME: Specific to GO

• Sequence of Events: R1 – You must install/acquire SOE at your generating facility if you meet the MVA threshold. Connection status to an A10 bus is not relevant.

• Fault Recording: R4 – You must install/acquire FR at your Generating Plant if you meet both:
  1. MVA threshold
  2. Facility is connected through GSU to A10 bus* or a circuit that connects to an A10 bus*

*Unless proof of an agreement with the TO is provided as allowed by R4

Slide 8 revised 7/11/13 (Rev 2) to clarify Generating Plant in FR R4 and A10 wording in #2
Progress by October 20, 2013...

Implementation Plan

1. Within two (2) years of FERC and Canadian entities’ approvals, entities shall be 50 percent compliant at facilities required to have DME capabilities by:
   
a. Installing Sequence of Events (SOE) capability at 50 percent of the facilities that previously had no SOE capability (percent complete will be based on the number of facilities completed)

b. Installing additional SOE capability to facilities with existing SOEs such that 50 percent of the total required capability is complete (percent complete will be based on the number of SOE points required)

c. Installing Fault Recording capability at 50 percent of the facilities that previously had no Fault Recording capability (percent complete will be based on the number of facilities completed)

d. Installing additional Fault Recording capability to facilities with existing Fault Recording capability such that 50 percent of the required capability is complete (percent complete will be based on the number of traces required)
Each of the following R1.1 instances under your NCR* constitutes a “facility” that requires SOE

1. A10 Substations
2. Locations where Ckt Bkr operations affect service to RADIAL loads >300MW
3. Locations where Ckt Bkr operations drops ≥ 50MVA (nameplate rating) of Generation
4. Locations where Ckt Bkr operations creates Generation/Load island
5. Generating units >50MVA (nameplate rating)
6. A series of generating units utilizing control scheme where loss of 1 unit results in loss >50MVA (Nameplate Capacity)
7. **Generating Plants** >300MVA (nameplate capacity)

* NCR = NERC Compliance Registry
**Defined in NPCC Glossary of Terms: One or more generators at a single physical location whereby any single contingency can affect all the generators at that location.
SOE: Number of facilities

- Add the number of instances for each of the seven types under your NCR number
- The result is the total number of facilities and will be the denominator when the SOE % complete is calculated
- Do not double count
- Document your rationale
Special: Single Facility Entities

• An NCR with ONE total facility that has no existing capability (SOE, FR) is allowed to calculate % complete on a facility basis and is allowed to take the full 4 years to become 100% complete

• The NCR with ONE total facility that has existing capability must meet the 50% completion date using data point basis (SOE) or trace basis (FR)
Do I have “Existing Capability”?

• You have existing SOE capability if you currently have the ability to time stamp events using the COMTRADE file format. (See R16)
• If you have that capability, you must use data point basis; else, use a facility basis for SOE.
• You have existing FR capability and must use the trace basis if you currently have the ability to acquire all of the aspects of R5; else, use a facility basis for FR.
SOE Practical Example

• An NCR with 10 facilities that need SOE
• 6 do not have existing SOE capability, 4 have existing SOE capability
• The group of 6 is “Facility” basis for SOE
  – Must be 100% complete with SOE at 3 facilities
• The group of 4 is “Data Points” basis for SOE
  – Must be 50% complete with total number of SOE DP at all 4 facilities
Monitoring of DME

- Entity must Self-Report via CDAA after October 20, 2013 if not 50% complete with your required DME work
- Self Report form will be on CDAA
  - Applicable to GO: R1 and R4
  - Applicable to TO: R1 and R2
Effect of Revised BES definition

• It does not effect DME activity on NPCC BES Assets covered by the existing Imp Plan
• Current assets >>> stay on course with existing 4 Year Implementation Plan
• NPCC expects a separate DME Implementation Plan specific to newly identified assets with deadline dates that will be after 7/1/16
Plan for Newly Identified Assets

• Separate Plan is not expected to overlap with existing Implementation Plan

• From one of two sources
  – North American DME SDT
  – NPCC Regional DME SDT

• Duration of the plan is not guaranteed
What can you do?

• Make sure your rationale is solid
  – Calculation of total facilities
  – Existing Capability or not?
  – MVA qualifications
• Understand how the posted Interpretations apply
• NPCC is reasonable, but making us “reasonably assured” is your job
• We trust, but we will verify.
• The ultimate goal of NPCC is 100% completion of all DME activity by 10/20/15
PRC-006-NPCC-01

Under Frequency Load Shedding

UFLS
UFLS Effective/Enforcement Dates

- FERC approved February 21, 2013
- Posted in Federal Register February 27, 2013
- Effective Date of Order April 27, 2013
- R8 through R23...July 1, 2015
- R1 through R7...January 1, 2016
- Ontario IESO...April 1, 2017

Slide 20 revised 7/10/13 (Rev 1) to correct/clarify dates associated with R8 through R23
Nomenclature Used

• NPCC Regional Standard R4 refers to Attachment C which uses phrase “total nominal operating time” of 300 ms...a tolerance is not specified.

• Webster’s “nominal”: *relating to a designated or theoretical size that may vary from the actual; a de facto value rather than exact value.*

• Background: NPCC Directory 12 Section 5.2 uses phrase “total operating time”¹ and allows 300 +/- 50 ms (i.e. a tolerance)

Note 1: Total operating time is the load-weighted average for all load within a Balancing Authority area, with maximum deviation for any load limited to ±50 ms.
Compliance Monitoring

• For NPCC Compliance Monitoring purposes, NPCC Compliance Staff will use 300 +/- 50 ms for determining compliance with the “total nominal operating time” aspect in R4

• All Registered Entities subject to compliance with PRC-006-NPCC-01 will be held to the +/- 50 ms tolerance
Generator Tripping

• NPCC Regional Standard R13 says GO shall set UF trip relay “below” the curve
• Compliance clarification: “on or below the curve” is acceptable to show compliance with R13 of PRC-006-NPCC-01
• Background:
  – NPCC Directory 12 Section 5.4.2: States generator shall “not” be tripped for UF conditions in area “above the curve” shown in Figure 1.
  – Looking at NPCC Directory 12 Figure 1: Contains text that allows generator setting for UF protection to “trip on or below the curve” without further compensatory load shedding
Questions and Answers

• A Q&A document will be posted to the NPCC website
• Please email your questions to:
  – Scott Nied  snied@npcc.org