NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# FERC Staff Meeting Notes to Review Draft Standard Disturbance Monitoring — Project 2007-11

**November 5, 2008 | 8:30–10 a.m. EST**

**Meeting Attendees:**

Dave Taylor, NERC
Julia Souder, NERC
Barry Goodpaster, Exelon Company
Navin Bhatt, AEP
Bob Millard, ReliabilityFirst Corporation
Stephanie Monzon, NERC

**FERC Staff Attendees:**

Keith O'Neil
Cynthia Pointer
Bob Snow

| TP # | Discussion Lead | Topic | Discussion Points | Source and Summary Action Plan |
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| 0 | Stephanie Monzon | Process Status | Close to posting — anticipated for end of November beginning of December 2008.<br>Team has prepared documents including implementation plan, comment form and mapping document.<br>In addition the team has left out the VSLs. | No action at this time.<br>VSL sub-team drafted initial VSLs to confirm that standard format is appropriate to develop VSLs. The team will refine the VSLs for a future posting using the guidelines FERC staff referenced. |
| **Notes on Talking Point 0** | | | | |
| Bob Snow counseled that the Commission will use the VSL guidelines when evaluating the compliance elements that the team will eventually propose and that the team uses these guidelines. | | | | |
| 1 | Navin Bhatt | PRC-018-1 PRC-002-1 to NEW PRC-002-2 | The new standard (PRC-002-2) is being proposed based on the requirements of the existing PRC-002-1 and PRC-018-1 standards. The requirements in PRC-018-1 are being incorporated into PRC-002-2 with the exception of the maintenance and | DME Comment Form<br>The action required is to create a technical paper that justifies the 200kV threshold basis of the proposed standard. This technical analysis needs |

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| | | | testing requirements in PRC-018-1.<br><br>The SDT has considered the "fill in the blank" items that are specified in the NERC Board approved standard PRC-002-1 that the Regional Reliability Organizations were required to develop "procedures and requirements" for the entities to meet. The SDT also considered all the requirements specified in FERC approved standard PRC-018-1. The SDT is proposing to change the "fill in the blank" characteristics into entity specific requirements and merge them with the PRC-018-1 requirements.<br><br>The team created a mapping document to trace the PRC-018-1 requirements and the PRC-002-1 requirements into the new standard PRC-002-2 | to include justification for other fundamental technical decisions or thresholds in the proposed standards. |

**Notes on Talking Point 1**

**Blackout Recommendation**
Bob Snow had questions about the applicability of the standard and the logic of this assignment — is it based on studies? How does it align with the blackout recommendations?

Navin Bhatt responded by referencing sections 12a, 28a, and 28b of the recommendation that are applicable to the standard. Data required, time sync, and the correct locations are what you need. The draft standard addresses these three elements (what data, data is time synced, and the locations). See talking point 6 below.

Justification for the 200kV Threshold/Applicability of the standard.

Bob Snow wanted the hard data that was used to deliberate on the threshold (200kV) issue.

Barry Goodpaster, Navin Bhatt, and Dave Taylor indicated that the data is looking at larger substations that are operated at 200kV and transformers and generators that are 500 MVA and that the team has event analysis experts that provided good engineering judgment to determine the approach.

Bob Snow suggested going back to Order 672 and the factors to use as a guideline for the technical justification that is needed for the Commission to approve a reliability standard (in summary that the technical requirements should be based on data in addition to good judgment). For example 200 kV and above in the proposed standard is based on the good engineering judgment not data.

To be addressed in the technical paper.

**200 kV in Conflict with NERC BES Definition**
Bob Snow alluded to the 200 kV being in conflict with the definition of the BES which is 100kV and above. This would align with the other standards that are being filed with the Commission and is alignment with Order 215. Bob is looking for the approach based on an analysis + engineering judgment + out clause that for unusual situations there may be other things needed or not needed (see notes on the justification for the 200kV threshold).

To be addressed in the technical paper.

**Conclusion**
Bob Millard rephrased the issue by stating that FERC staff wants the analysis that was used to determine the threshold to point to when questions come up and is looking for the technical analysis.

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| 2 | Navin Bhatt | Applicability | Focus on transmission voltage levels of 200 kV and above, generators 500 MVA and above and generating stations 1500 MVA and above based on expected impact to the interconnected system. These values will require significant additional resources, | DME Comment Form |

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| | | | while adding little value.<br><br>Requirements, if any, below these thresholds should be based on local needs to be identified by Regional Entities, while working with respective Transmission Owners and Generator Owners.<br><br>**Applicability in standard reads**: Transmission Owners with Substations having Facilities rated at 200 kV or above.<br><br>Generator Owners with any one of the following and connected to the transmission system at 200 kV or above:<br><br>Generating plants having a single generating unit of 500 MVA or higher nameplate rating.<br><br>Generating plants with an aggregate plant total nameplate capacity of 1500 MVA or higher. | |
| **Notes on Talking Point 2** | | | | |
| See notes on talking point 1 | | | | |
| 3 | Navin Bhatt | Overall approach of standard — focus on data not equipment | The SDT decided to develop requirements for functionality for Disturbance data recording, rather than developing equipment requirements. The team focused on the "what" instead of the "how" i.e. not prescriptive. | DME Comment Form |
| **Notes on Talking Point 3** | | | | |
| See notes on talking point 1 | | | | |
| 4 | Barry Goodpaster | Standard Overview | The Disturbance data requirements are focused upon:<br>• Sequence of events<br>• Faults<br>• Dynamic disturbances<br>The requirements can be met by a variety of equipment. | DME Comment Form |
| **Notes on Talking Point 4** | | | | |
| **Standard Language: "Shall have a process in place"**<br>Bob Snow wanted elaboration on the language that says: "shall have a process in place". Barry Goodpastor walked through an example but Bob Snow thinks there may be concerns with addressing compliance elements with that language (able to get data with accuracy when opened or closed).<br><br>The sub-team recommends that we should rely on industry expert's comments to drive this standard detail. | | | | |

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| **Recording of Relay Targets**<br>Bob Snow indicated that the standard talks about data collection and reporting but the standard needs to address recording of targets. This was specifically identified in the blackout recommendation. Adding this to the standard would be no cost items (already being recorded). What else did you look at to determine what data is necessary to understand the event; for the most part events occur because more than one thing occurs?<br><br>Barry Goodpaster said that we would take an action item to look at what other data would be useful or necessary to analyze an event.<br><br>To be addressed in the technical paper.<br><br>**Data**<br>Bob Snow questioned what it is when entities should record data? Barry Goodpaster indicated that it is wave form. Bob Snow stated that the standard does not specifically say that and leaving it out would make it difficult to measure for compliance (the wave form of the phasor voltages). Also need to include the "what" is expected to be measured.<br><br>The sub-team recommends that we should rely on industry expert's comments to drive this standard detail.<br><br>**Data Retention**<br>Bob Snow wanted to know the logic behind the retention of R11? He encouraged the team to think about a longer time frame since events are not recorded immediately.<br><br>The sub-team recommends that we should rely on industry expert's comments to drive this standard detail. | | | | |
| 5 | Barry Goodpaster | Standard Overview | For each type of data (sequence of events, faults, dynamic disturbances) the requirements are arranged as follows:<br><br>Locations for recording or having a process to derive: 1) sequence of events; 2) faults; and 3) dynamic disturbance recording data;<br><br>Equipment to be monitored at above locations;<br><br>Specific quantities to be monitored for above equipment; and<br><br>Technical parameters to ensure adequate data to analyze a Disturbance. | DME Comment Form |
| **Notes on Talking Point 5** | | | | |
| See notes on talking point 1 | | | | |
| 6 | Navin Bhatt | Blackout Recommend. | Current FERC Approved Standard PRC-018-1:<br><br>PRC-018-1; R1.1 Internal Clocks in DME devices shall be synchronized to within 2 milliseconds or less of Universal Coordinated Time scale (UTC).<br><br>Proposed Standard: PRC-002-2:<br><br>R10. Each Transmission Owner and Generator Owner shall synchronize all Sequence of Event, Fault Recording, and Dynamic Disturbance Recording functions to within +/- 2 milliseconds of Universal Coordinated Time scale (UTC) with hour | Navin's e-mail |

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| | | | offset as necessary. | |
| **Notes on Talking Point 6** | | | | |
| See notes on talking point 1 | | | | |
| 7 | Stephanie Monzon | Implementation Plan | The intended effective date of the PRC-002 requirements for the development of RRO procedures assumed that nine months from the NERC Board approval on August 2, 2006, the RRO procedures would have been issued, namely May 2007.<br><br>Full compliance implementation of requirements, such as time synchronization, would be achieved by June 2011. The SDT has based its effective date for requirements previously contained in PRC-018, which do not have fill-in-the-blank characteristics, such as R1.1, be 18 months from regulatory approval. In this manner such requirements will continue to be on the same time table for full compliance implementation as intended by PRC-018. This includes approximate times to complete the proposed standard and obtain NERC and regulatory approval.<br><br>All other requirements in this proposed continent wide draft standard effectively become the previous RRO fill-in-the-blank requirements. Since these requirements are not necessarily identical to any current or proposed regional procedures, it is appropriate to provide the same preparatory time margin, namely four years for full compliance implementation from the time of regulatory approval, as was intended in PRC-002 and PRC-018 when issuance of an approved RRO procedure was referenced. | Implementation Plan |
| **Notes on Talking Point 7** | | | | |
| See notes on talking point 0 | | | | |