NERC and Regional Coordination Update

Mark Kuras, Senior Lead Engineer
NERC and Regional Coordination
PC – September 10, 2015
**NERC Standards Under Development**

<table>
<thead>
<tr>
<th>Standards</th>
<th>Project</th>
<th>Activity</th>
<th>Due Date</th>
</tr>
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<tbody>
<tr>
<td>BAL-005-0.2b</td>
<td><strong>Project 2010-14.2.1 Phase 2 of Balancing Authority Reliability-based Controls</strong></td>
<td>Initial Ballot</td>
<td>9/4/15 – 9/14/15</td>
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<td>BAL-006-2</td>
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<td>FAC-001-1</td>
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BARC 2 Periodic Review Team (PRT) recommended to revise BAL-005-0.2b and BAL-006-2. First Drafts of BAL-005-1, BAL-006-3, and FAC-001-3 are posted for comments. Revisions to existing versions include the following:

1. BAL-005-1: Retiring several requirements and moving/merging content of the remaining requirements. Previous version had 17 requirements, new one has 8.
2. BAL-006-3: No change to any requirements in BAL-006-2 except for R3, which has been moved to BAL-005-1
3. FAC-001-3: No change to requirements R1-R4 of FAC-001-2. Added 3 requirements (R4-R7) as a result of moving BAL-005-0.2b R1 to FAC-001-3
Project 2007-06.2 Phase 2 of System Protection Coordination

In conjunction with Phase 1, the project proposes to retire PRC-001-1.1(ii) as indicated below:

1. Retire R2, R5, and R6 as the objectives are addressed by other TOP/IRO standards
2. Incorporate R1 into proposed Reliability Standard TOP-009-1
3. R3 and R4 addressed by PRC-027-1

Draft 1 of TOP-009-1 posted for comment. Applicable to BAs, TOPs, and GOPs and has 3 requirements as indicated below:

1. R1, R2, and R3 are applicable to TOPs, BAs, and GOPs, respectively, and require the entities to ensure that personnel responsible for Reliable Operation of the respective area have knowledge of operational functionality and effects of Composite Protection Systems and Remedial Action Schemes.
### Standards

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<tr>
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<th>Project</th>
<th>Activity</th>
<th>Due Date</th>
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<tbody>
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<td>PRC-027-1</td>
<td>Project 2007-06 System Protection Coordination</td>
<td>Ballot</td>
<td>9/2/15 – 9/11/15</td>
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<td>retirement of PRC-001-1.1(ii)</td>
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### Project 2007-06 System Protection Coordination

PRC-027-1 Draft 6 posted for comment. In conjunction with Phase 2 of the project, PRC-001-1.1(ii) will be retired. This project address requirements R3 and R4 of PRC-001-1.1 (ii) while the rest are either being retired or incorporated into TOP-009-1. PRC-027-1 Draft 6 contains the following requirements:

1. **R1** mandates that an entity establish a process for developing new and revised Protection System settings for BES Elements to operate in the intended sequence during Faults; and stipulates certain attributes that must be included in the process.

2. **R2** mandates that an entity periodically perform Protection System Coordination Studies and/or compare existing Fault current values to established Fault current baselines for Protection Systems applied on BES Elements that are identified as being affected by changes in Fault current. The applicable Protection System functions are identified in Attachment A.

3. **R3** mandates that an entity utilize the process established in accordance with Requirement R1.
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<th>Project</th>
<th>Activity</th>
<th>Due Date</th>
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<td>PRC-005-3</td>
<td>Project 2007-17.4 PRC-005 FERC Order No. 803 Directive</td>
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Addresses FERC Order No. 803 directive
“direct that, pursuant to section 215(d)(5) of the FPA, NERC develop modifications to PRC-005-3 to include supervisory devices associated with auto-reclosing relay schemes to which the Reliability Standard applies…”
Draft 1 of PRC-005-6 posted for comment. Revisions include:
1. Added supervisory relays, associated voltage sensing devices, and associated control circuitry to definition of Automatic Reclosing
2. Minor wording changes in requirements/measures
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First Draft of MOD-031-2 posted for comment. The project will modify the language in R3 to clarify certain obligations to provide data to the Regional Entity and will also address the FERC directive to consider the compliance obligations of an applicable entity upon receipt of a data request that seeks confidential information. Changes made to R3 to address both these issues.
# NERC Standards Under Development

## Project 2015-09 Establish and Communicate System Operating Limits

The project will revise the requirements for determining and communicating System Operating Limits (SOLs) to achieve the following:

1. Eliminate overlap with approved TPL requirements
2. Improve alignment with proposed TOP and IRO standards
3. Addressing issues with determining and communicating SOLs and IROLs
4. Address Project 2015-03 Periodic Review Team recommendations

Major revisions include:

1. Retire FAC-010-3 since BES planning is covered under approved TPL-001-4
2. Clarify acceptable System performance criteria for the operations time horizon by developing standards replacing requirements of FAC-011-3
3. Develop requirements to address FERC Order No. 777 directive for communications of IROL information to TOs
4. Revise SOL definition and create SOL Exceedance definition to provide clarify and alignment with how SOLs are treated in proposed TOP & IRO standards
5. Propose requirements that will delineate functional entity responsibilities for determining and communicating each type of SOL

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[www.pjm.com](http://www.pjm.com)
Phase 3 is intended to address all aspects of RAS and Special Protection Systems (SPS) contained in the RAS/SPS-related Reliability Standards. In FERC Order No. 693, the Commission identified PRC-012-1, PRC-013-1, and PRC-014-1 as “fill-in-the-blank” standards.

The Phase 3 SDT will correct the applicability of the fill-in-the-blank standards by assigning the requirement responsibilities to the specific users, owners, and operators of the Bulk-Power System; and will revise the RAS/SPS-related standards that address the:

- planning, coordination, and design of RAS/SPS,
- review, assessment, and documentation of RAS/SPS,
- analysis of RAS/SPS operation(s) and/or failure(s) to operate,
- testing of RAS/SPS, and maintenance of any non-protection system components used.
October 1, 2015
  • CIP-014-1 - Physical Security
  • COM-001-2 - Communications
  • PRC-006-2 - Automatic Underfrequency Load Shedding

January 1, 2016
  • FAC-001-2 - Facility Interconnection Requirements
  • FAC-002-2 - Facility Interconnection Studies
  • NUC-001-3 - Nuclear Plant Interface Coordination

April 1, 2016
  • PRC-005-3 - Protection System and Automatic Reclosing Maintenance
  • PRC-005-3(i) - Protection System and Automatic Reclosing Maintenance (w/disp gen)
NERC Standards Subject to Future Enforcement

- **July 1, 2016**
  - BAL-001-2 - Real Power Balancing Control Performance
  - COM-002-4 - Operating Personnel Communications Protocols
  - MOD-025-2 - Verification and Data Reporting of Generator Real and Reactive Power Capability and Synchronous Condenser Reactive Power Capability
  - MOD-031-1 - Demand and Energy Data
  - PER-005-2 - Operations Personnel Training
  - PRC-004-4 – Protection System Misoperation Identification and Correction;
  - PRC-019-1 - Coord of Gen Unit or Plant Capabilities, Voltage Regulating Controls, and Protection
  - PRC-019-2 – Coord of Gen Unit or Plant Capabilities, Voltage Regulating Controls, and Protection
  - PRC-024-1 - Generator Frequency and Voltage Protective Relay Settings
  - PRC-024-2 – Generator Frequency and Voltage Protective Relay Settings

- **July 1, 2017**
  - MOD-033-1 - Steady-State and Dynamic System Model Validation