

## Implementation Plan

### Project 2007-17 Protection Systems Maintenance and Testing

#### PRC-005-02

#### Standards Involved

##### Approval:

- PRC-005-2 – Protection System Maintenance

##### Retirements:

- PRC-005-1b – Transmission and Generation Protection System Maintenance and Testing
- PRC-008-0 – Implementation and Documentation of Underfrequency Load Shedding Equipment Maintenance Program
- PRC-011-0 – Undervoltage Load Shedding System Maintenance and Testing
- PRC-017-0 – Special Protection System Maintenance and Testing

#### Prerequisite Approvals:

Revised definition of “Protection System”

#### Background:

The Implementation Plan reflects consideration of the following:

1. The requirements set forth in the proposed standard establish minimum maintenance activities for Protection System component types and the maximum allowable maintenance intervals for these maintenance activities. The maintenance activities established may not be presently performed by some entities and the established maximum allowable intervals may be shorter than those currently in use by some entities.
2. For entities not presently performing a maintenance activity or using longer intervals than the maximum allowable intervals established in the proposed standard, it is unrealistic for those entities to be immediately compliant with the new activities or intervals. Further, entities should be allowed to become compliant in such a way as to facilitate a continuing maintenance program.
3. Entities that have previously been performing maintenance within the newly specified intervals may not have all the documentation needed to demonstrate compliance with all of the maintenance activities specified.

On October 17, 2013, the Standards Committee approved an errata change to the implementation plan for PRC-005-2 to add the phrase “or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities;” to the second sentence under the “Retirement of Existing Standards” section.

4. The Implementation Schedule set forth in this document requires that entities develop their revised Protection System Maintenance Program within twelve (12) months following applicable regulatory approvals, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter twenty-four (24) months following NERC Board of Trustees' adoption. This anticipates that it will take approximately twelve (12) months to achieve regulatory approvals following adoption by the NERC Board of Trustees.
5. The Implementation Schedule set forth in this document facilitates implementation of the more lengthy maintenance intervals within the revised Protection System Maintenance Program in approximately equally-distributed steps over those intervals prescribed for each respective maintenance activity in order that entities may implement this standard in a systematic method that facilitates an effective ongoing Protection System Maintenance Program.

**General Considerations:**

Each Transmission Owner, Generator Owner, and Distribution Provider shall maintain documentation to demonstrate compliance with PRC-005-1b, PRC-008-0, PRC-011-0, and PRC-017-0 until that entity meets the requirements of PRC-005-2 in accordance with this implementation plan. Each entity shall be responsible for maintaining each of their Protection System components according to their maintenance program already in place for the legacy standards (PRC-005-1b, PRC-008-0, PRC-011-0, and PRC-017-0) or according to their maintenance program for PRC-005-2, but not both. Once an entity has designated PRC-005-2 as its maintenance program for specific Protection System components, they cannot revert to the original program for those components.

While entities are transitioning to the requirements of PRC-005-2, each entity must be prepared to identify:

- All of its applicable Protection System components.
- Whether each component has last been maintained according to PRC-005-2 or under PRC-005-1b, PRC-008-0, PRC-011-0, or PRC-017-0.

For activities being added to an entity's program as part of PRC-005-2 implementation, evidence may be available to show only a single performance of the activity until two maintenance intervals have transpired following initial implementation of PRC-005-2.

**Retirement of Existing Standards:**

Standards PRC-005-1b, PRC-008-0, PRC-011-0, and PRC-017-0, which are being replaced by PRC-005-2, shall remain active throughout the phased implementation period of PRC-005-2 and shall be applicable to an entity's Protection System component maintenance activities not yet transitioned to PRC-005-2. Standards PRC-005-1b, PRC-008-0, PRC-011-0, and PRC-017-0 shall be retired at midnight of the day immediately prior to the first day of the first calendar quarter one hundred fifty-six (156) months following applicable regulatory approval or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities; or, in those jurisdictions where no regulatory approval is

required, at midnight of the day immediately prior to the first day of the first calendar quarter one hundred sixty-eight (168) months following NERC Board of Trustees' adoption.

**Implementation Plan for Definition:**

Protection System Maintenance Program – Entities shall use this definition when implementing any portions of R1, R2 R3, R4 and R5 which use this defined term.

**Implementation Plan for Requirements R1, R2 and R5:**

Entities shall be 100% compliant on the first day of the first calendar quarter twelve (12) months following applicable regulatory approvals, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter twenty-four (24) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

**Implementation Plan for Requirements R3 and R4:**

1. For Protection System component maintenance activities with maximum allowable intervals of less than one (1) calendar year, as established in Tables 1-1 through 1-5:
  - The entity shall be 100% compliant with PRC-005-2 on the first day of the first calendar quarter eighteen (18) months following applicable regulatory approval, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter thirty (30) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
2. For Protection System component maintenance activities with maximum allowable intervals one (1) calendar year or more, but two (2) calendar years or less, as established in Tables 1-1 through 1-5:
  - The entity shall be 100% compliant with PRC-005-2 on the first day of the first calendar quarter thirty-six (36) months following applicable regulatory approval, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter forty-eight (48) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
3. For Protection System component maintenance activities with maximum allowable intervals of three (3) calendar years, as established in Tables 1-1 through 1-5:
  - The entity shall be at least 30% compliant with PRC-005-2 on the first day of the first calendar quarter twenty-four (24) months following applicable regulatory approval (or, for generating plants with scheduled outage intervals exceeding two years, at the conclusion of the first succeeding maintenance outage), or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter thirty-six (36) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be at least 60% compliant with PRC-005-2 on the first day of the first calendar quarter thirty-six (36) months following applicable regulatory approval, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter forty-eight (48) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

- The entity shall be 100% compliant with PRC-005-2 on the first day of the first calendar quarter forty-eight (48) months following applicable regulatory approval, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter sixty (60) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
4. For Protection System component maintenance activities with maximum allowable intervals of six (6) calendar years, as established in Tables 1-1 through 1-5 and Table 3:
- The entity shall be at least 30% compliant with PRC-005-2 on the first day of the first calendar quarter thirty-six (36) months following applicable regulatory approval (or, for generating plants with scheduled outage intervals exceeding three years, at the conclusion of the first succeeding maintenance outage), or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter forty-eight (48) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be at least 60% compliant with PRC-005-2 on the first day of the first calendar quarter sixty (60) months following applicable regulatory approval, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter seventy-two (72) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be 100% compliant with PRC-005-2 on the first day of the first calendar quarter eighty-four (84) months following applicable regulatory approval, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter ninety-six (96) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
5. For Protection System component maintenance activities with maximum allowable intervals of twelve (12) calendar years, as established in Tables 1-1 through 1-5, Table 2, and Table 3:
- The entity shall be at least 30% compliant with PRC-005-2 on the first day of the first calendar quarter sixty (60) months following applicable regulatory approval, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter seventy-two (72) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be at least 60% compliant with PRC-005-2 on the first day of the first calendar quarter following one hundred eight (108) months following applicable regulatory approval, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter one hundred twenty (120) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

- The entity shall be 100% compliant with PRC-005-2 on the first day of the first calendar quarter one hundred fifty-six (156) months following applicable regulatory approval, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter one hundred sixty-eight (168) months following NERC Board of Trustees' adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

**Applicability:**

This standard applies to the following functional entities:

- Transmission Owner
- Generator Owner
- Distribution Provider