

## Implementation Plan Protection System and Automatic Reclosing Maintenance PRC-005-3

### Standards Involved

#### Approval:

- PRC-005-3 – Protection System and Automatic Reclosing Maintenance

#### Retirements:

- PRC-005-2 – Protection System Maintenance
- 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:

N/A

### Background:

Reliability Standard PRC-005-2 with its associated Implementation Plan was approved by the NERC Board of Trustees in November 2012 and has been filed with the applicable regulatory authorities for approval. The Implementation Plan for PRC-005-3 addresses both Protection Systems as outlined in PRC-005-2 and Automatic Reclosing components. PRC-005-3 establishes minimum maintenance activities for Automatic Reclosing Component Types and the maximum allowable maintenance intervals for these maintenance activities. PRC-005-3 requires entities to revise the Protection System Maintenance Program by now including Automatic Reclosing Components. The implementation plan established under PRC-005-2 remains unchanged except for the addition of Automatic Reclosing Components required under PRC-005-3.

The Implementation Plan reflects consideration of the following:

1. The requirements set forth in the proposed standard, which carry-forward requirements from PRC-005-2, establish minimum maintenance activities for Protection System and Automatic Reclosing Component Types as well as 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.
4. The Implementation Schedule set forth below in this document carries forward the implementation schedules contained in PRC-005-2 and includes changes needed to address the addition of Automatic Reclosing Components in PRC-005-3.
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, or the combined successor standard PRC-005-3, in accordance with this implementation plan.

While entities are transitioning to the requirements of PRC-005-2, or the combined successor standard PRC-005-3, each entity must be prepared to identify:

- All of its applicable Protection System and Automatic Reclosing Components.
- Whether each component has last been maintained according to PRC-005-2 (or the combined successor standard PRC-005-3), PRC-005-1b, PRC-008-0, PRC-011-0, PRC-017-0, or a combination thereof.

For activities being added to an entity's program as part of PRC-005-3 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-005-3.

### **Retirement of Existing Standards:**

Standards PRC-005-1b, PRC-008-0, PRC-011-0, and PRC-017-0 shall remain active throughout the phased implementation period of PRC-005-3 and shall be applicable to an entity's Protection System Component maintenance activities not yet transitioned to PRC-005-3. 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 of PRC-005-2 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 the November 2012 NERC Board of Trustees' adoption of PRC-005-2.

The existing standard PRC-005-2 shall be retired at midnight of the day immediately prior to the first day of the first calendar quarter, twelve (12) calendar months following applicable regulatory approval of PRC-005-3, 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, the first day of the first calendar quarter twelve (12) calendar months from the date of 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:**

For Protection System Components, entities shall be 100% compliant on the first day of the first calendar quarter twelve (12) months following applicable regulatory approvals of PRC-005-2, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter twenty-four (24) months following the November 2012 NERC Board of Trustees' adoption of PRC-005-2 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

For Automatic Reclosing Components, entities shall be 100% compliant on the first day of the first calendar quarter twelve (12) months following applicable regulatory approvals of PRC-005-3, 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 of PRC-005-3 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 on the first day of the first calendar quarter eighteen (18) months following applicable regulatory approval of PRC-005-2, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter thirty (30) months following the November 2012 NERC Board of Trustees' adoption of PRC-005-2 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 on the first day of the first calendar quarter thirty-six (36) months following applicable regulatory approval of PRC-005-2, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter forty-eight (48) months following the November 2012 NERC Board of Trustees' adoption of PRC-005-2 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 on the first day of the first calendar quarter twenty-four (24) months following applicable regulatory approval of PRC-005-2 (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 the November 2012 NERC Board of Trustees' adoption of PRC-005-2 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be at least 60% compliant on the first day of the first calendar quarter thirty-six (36) months following applicable regulatory approval of PRC-005-2 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 of PRC-005-2 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be 100% compliant on the first day of the first calendar quarter forty-eight (48) months following applicable regulatory approval of PRC-005-2, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter sixty (60) months following the November 2012 NERC Board of Trustees' adoption of PRC-005-2 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 on the first day of the first calendar quarter thirty-six (36) months following applicable regulatory approval of PRC-005-2 (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 the November 2012 NERC Board of Trustees' adoption of PRC-005-2 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

- The entity shall be at least 60% compliant on the first day of the first calendar quarter sixty (60) months following applicable regulatory approval of PRC-005-2, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter seventy-two (72) months following the November 2012 NERC Board of Trustees' adoption of PRC-005-2 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be 100% compliant on the first day of the first calendar quarter eighty-four (84) months following applicable regulatory approval of PRC-005-2, or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter ninety-six (96) months following the November 2012 NERC Board of Trustees' adoption of PRC-005-2 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
5. For Automatic Reclosing Component maintenance activities with maximum allowable intervals of six (6) calendar years, as established in Table 4:
- The entity shall be at least 30% compliant on the first day of the first calendar quarter thirty-six (36) months following applicable regulatory approval of PRC-005-3 (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 of PRC-005-3 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be at least 60% compliant on the first day of the first calendar quarter sixty (60) months following applicable regulatory approval of PRC-005-3, 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 of PRC-005-3, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be 100% compliant on the first day of the first calendar quarter eighty-four (84) months following applicable regulatory approval of PRC-005-3, 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 of PRC-005-3 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
6. 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 on the first day of the first calendar quarter sixty (60) months following applicable regulatory approval of PRC-005-2 or in those jurisdictions where no regulatory approval is required, on the first day of the first calendar quarter seventy-two (72) months following the November 2012 NERC Board of Trustees' adoption of PRC-005-2 or

as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

- The entity shall be at least 60% compliant on the first day of the first calendar quarter following one hundred eight (108) months following applicable regulatory approval of PRC-005-2 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 the November 2012 NERC Board of Trustees' adoption of PRC-005-2 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be 100% compliant on the first day of the first calendar quarter one hundred fifty-six (156) months following applicable regulatory approval of PRC-005-2 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 the November 2012 NERC Board of Trustees' adoption of PRC-005-2 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
7. For Automatic Reclosing Component maintenance activities with maximum allowable intervals of twelve (12) calendar years, as established in Table 4:
- The entity shall be at least 30% compliant on the first day of the first calendar quarter sixty (60) months following applicable regulatory approval of PRC-005-3 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 of PRC-005-3 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be at least 60% compliant on the first day of the first calendar quarter following one hundred eight (108) months following applicable regulatory approval of PRC-005-3 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 of PRC-005-3 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.
  - The entity shall be 100% compliant on the first day of the first calendar quarter one hundred fifty-six (156) months following applicable regulatory approval of PRC-005-3 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 of PRC-005-3 or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

**Implementation Plan for Newly identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area:**

This applies to PRC-005-3 and successor standards.

Additional applicable Automatic Reclosing Components may be identified because of the addition or retirement of generating units; or increases of gross generation capacity of individual generating units or plants within the Balancing Authority Area.

In such cases, the responsible entities must complete the maintenance activities, described in Table 4, for the newly identified Automatic Reclosing Components prior to the end of the third calendar year following the identification of those Components unless documented prior maintenance fulfilling the requirements of Table 4 is available.

**Applicability:**

This standard applies to the following functional entities:

- Transmission Owner
- Generator Owner
- Distribution Provider