Unofficial Comment Form
Project 2010-05.1 Protection System Misoperations

Please **DO NOT** use this form for submitting comments. Please use the electronic form to submit comments on the PRC-004-3 Standard. The comment form must be completed by **March 3, 2014**.

If you have questions please contact **Scott Barfield-McGinnis** or by telephone at 404-446-9689.

http://www.nerc.com/pa/Stand/Pages/Project2010-05_Protection_System_Misoperations.aspx

Background Information
This posting is soliciting formal comment.

The third draft of PRC-004-3 was posted for a 30-day formal comment period from January 22 – February 20, 2013 with a successive ballot in the last ten days of the comment period. Stakeholders from approximately 132 companies representing all ten Industry Segments provided feedback. The Protection System Misoperation Standard Drafting Team (PSMSDT) has responded to all commenters and developed a fourth draft of the standard for Protection System Misoperation Identification and Correction based on stakeholder input. Changes to the standard include:

**Summary of Changes**
The PSMSDT made substantive revisions to the previous draft 3 of PRC-004-3 – Protection System Misoperation Identification and Correction Reliability Standard following its previous 30-day formal comment posting of the standard and successive ballot which received 50.60% stakeholder approval. The following narrative is a summary of the substantive revisions made to the proposed draft 4 of the PRC-004-3 standard.

**Definitions**
**Composite Protection System:** The SDT is proposing a new definition to support the revisions to the definition of Misoperation.

**Misoperation:** The SDT made updated occurrences of “composite Protection System” with the newly proposed term of Composite Protection System. Other revisions include removing the uses of “zone,” and most notably updated the category of “Slow Trip – During Fault” to address high-speed performance. The last category of “Unnecessary Trip – Other Than Fault” was modified to be clear that a Protection System operation due to on-site personnel is not a Misoperation.

**Purpose**
The purpose statement was reorganized to clarify that the standard applies to those Protection Systems for Bulk Electric System Elements.
**Facilities**

The SDT revised the Facilities section of the Applicability to remove exclusions for Special Protection Systems (SPS) and Remedial Action Schemes (RAS). As a general rule, Reliability Standards should address what is applicable, not what is excluded; therefore, SPS and RAS are not referenced in the Applicability. Exclusions concerning non-protective functions embedded within a Protection System and protective functions intended to operate as a control function (e.g., reverse power when removing a generator from service) have been moved to the main Applicability for Facilities to add clarity that these are not applicable as Protection Systems for Bulk Electric System (BES) Elements.

**Effective Dates**

The effective dates have not materially changed even though the language shows significant modification. This language change is being applied to Reliability Standards that are currently under development. The change is an outcome of NERC working with Canadian authorities to address their specific circumstances. Also, the Effective Date language now incorporates a provision for the Western Interconnection due to identified overlap between the Regional Reliability Standard PRC-004-WECC-1 – Protection System and Remedial Action Scheme Misoperation and the proposed continent-wide Reliability Standard PRC-004-3 – Protection System Misoperation Identification and Correction. The provision is to allot time for the Western Interconnection to modify the Regional Reliability Standard.

**Requirement R1**

The SDT reorganized Requirement R1 to improve clarity of the required performance, allotted time periods, and a single reliability objective in a Requirement. The main part of the Requirement begins with defining what starts the review of a Misoperation, which is the operation of a BES interrupting device. In replacing the earlier Part 1.1 and its sub-bullets, the responsible entity will perform a review when the criteria (i.e., 1.1, 1.2, and 1.3) are met. The three criteria include when: the BES interrupting device operation was caused by a Protection System or by manual intervention in response to a Protection System failure to operate; the BES interrupting device owner owns all or part of the Protection System component(s); and the BES interrupting device owner identified that its Protection System component(s) caused the BES interrupting device(s) operation. Part 1.2 is now represented in Requirement R4 to investigate the identified Misoperation to determine a cause, if not previously revealed during the initial review of a Misoperation.

There were a significant number of comments from stakeholders about the confusion between the proposed “action plan” and the “Corrective Action Plan” found in previous Requirement R3. To address these comments, the SDT created Requirement R4 to allow an entity to continue its investigation, as needed, only requiring the entity to demonstrate actions taken at least once in every two calendar quarters toward determining the cause of an identified Misoperation.
**Requirement R2**
This requirement is essentially unchanged and is now represented in Requirement R5, the development of a Corrective Action Plan (CAP) to address the cause(s) of an identified Misoperation. The SDT made clarifying revisions to pinpoint the Protection System component that caused the Misoperation as being subject to the (CAP). Also, the word “first” was added before “…identifying the cause…” to improve clarity that upon identifying the “first cause” starts the 60 calendar day time period for developing the CAP. Last, the SDT added the clause “...and that no further corrective actions will be taken” to require entities to clearly state that no additional actions are planned to be taken to provide a measurable close to the performance in the declaration. Also, the phrase “would reduce BES reliability” was replaced with “would not improve BES reliability” to align with those conditions where corrective action may not be practical.

**Requirement R3**
This requirement was removed by the SDT in the current draft as comments revealed the use of “action plan” along with Corrective Action Plan created unnecessary confusion. The proposed Requirement R4 fills this performance by requiring entities to continue its investigative actions in determining a cause of an identified Misoperation.

**Requirement R4**
This requirement is now Requirement R6 and is essentially the same as the previous Requirement R4, except that “action plan” was removed. Implementation is further clarified that the CAP must be updated when actions or timetables change through completion of the CAP.”

**Compliance**
The SDT corrected this section to comport with the standard language NERC uses in Reliability Standards. Also, the Evidence Retention section was changed to reduce the minimum time periods that were previously proposed at six years (i.e., the last audit) for all Requirements to 12 calendar months for all Requirements according to the Standard Drafting Guidelines for evidence retention.

**VRFs and VSLs**
After further review, the SDT lowered the earlier Requirement R4 (implement the CAP) Violation Risk Level (VRF) from High to Medium. This comports with the VRF found in PRC-016-0.1 – Special Protection System Misoperation, Requirement R2 and PRC-022-1 - Under-Voltage Load Shedding Program Performance, Requirement R1.2. See the VRF and VSL Justifications document for additional information.

The Violation Severity Levels were completely rewritten due to the substantive changes made in restructuring the Requirements to meet a single reliability objective in a requirement. The SDT notes that it applied the VSL Guidelines in establishing the VSLs including the incremental differences between each level.
Application Guidelines
The SDT substantially reorganized the Guidelines and Technical Basis section of the Application Guidelines for organization and flow. Section headers were added and reordered as well as creating additional examples for guidance. For instance, the examples for Requirement R5 and R6 mirror one another to demonstrate an example of Corrective Action Plan (CAP) development (R5) and its implementation (R6).

Questions
You do not have to answer all questions. Enter comments in simple text format. Bullets, numbers, and special formatting will not be retained.

1. Based on stakeholder input, the drafting team created a new definition for Composite Protection System to support the definition of Misoperation. The Slow Trip categories of Misoperation were also clarified. Do you agree with the new and revised definitions? If not, please provide specific suggestions for improvement.

☐ Yes
☐ No
Comments:

2. Based on stakeholder input, the drafting team modified the previous Requirement R1 to clarify responsibilities where two or more entities share ownership of a Protection System. The proposed Requirement R2 determines when other entities are notified and Requirement R3 now clarifies that the notified entity has the greater of 60 calendar days from notification or 120 calendar days from the BES interrupting device operation. Do you agree this modification clarified the performance for notification (R2) and the notified (R3)? If not, please provide specific suggestions for improvement.

☐ Yes
☐ No
Comments: We agree with the requirements as revised, but do not agree with Measures M2 and M3.

a. Measure M2: The performance target is that the responsible entity notified the other owner(s) of the Protection System of the operation of the BES interrupting device when the conditions in Parts 2.1 to 2.3 are met.
b. Measure M3: The performance target is that the responsible entity undertook actions to identify whether its Protection System component(s) caused a Misoperation when notified by the other owner of the Protection System of the BES interrupting device that operated.

3. Based on stakeholder input, the drafting team removed the previous Requirement R3 (action plan) and proposed a new Requirement R4 which provides entities time to investigate the Misoperation to determine its cause(s). Do you agree this modification clarified performance and removed ambiguity regarding the action plan? If not, please provide specific suggestions for improvement.

☐ Yes
☒ No

Comments: We agree with the requirements as revised, but do not agree with the Measures.

Measures: The performance target is that the responsible entity performed investigative action(s) to determine the cause of the Misoperation at least once every two full calendar quarters after the Misoperation was first identified, and the identification of the cause(s) of the Misoperation or a declaration that no cause was identified.

The term “investigative action(s)” is ambiguous even given the example cited in the Application Guidelines. Since this is an auditable measure, this term should be defined in the standard.

4. The drafting team modified the Application Guidelines to improve examples and clarify the team’s intent on various topics. Do you agree the Application Guidelines provide sufficient examples and clarity? If not, please provide specific suggestions for improvement.

☐ Yes
☐ No

Comments:

5. If you have any other comments on this Standard that you haven’t already mentioned above, please provide them here:

Comments:

a. The “Effective Dates” section of the standard is confusing as it suggests no regulatory (i.e. FERC) approval is required in Western Interconnection and offers both twelve and twenty-four month timeframes.
b. Applicability Section – Facilities: We agree with removing references to RAS and SPS, but question the omission of UVLS when UFLS that is intended to trip one or more BES Elements is included. There might well be UVLS that performs a similar function when initiated by abnormal voltage conditions. The draft standard does not provide any rationale for the omission. Please review and provide the rationale, or add UVLS to the list of applicable facilities.

c. Measure M1: M1 as presented only indicates the kind of evidence that can be provided to demonstrate compliance by the responsible entity, but M1 does not specify the performance targets to illustrate compliance, e.g. “that the responsible entity undertook actions to identify whether its Protection System component(s) caused a Misoperation when the conditions in Part 1.1 to Part 1.3 are met”. Suggest M1 be revised to provide the performance target.

d. VSL for R1: The second condition under SEVERE is not proper or needed. Requirement R1 asks for the identification of whether or not a responsible entity’s Protection System component(s) caused a Misoperation but R4 has a provision that if the responsible entity has not determined the cause(s) of a Misoperation identified in accordance with Requirement R1 (or R3), then it shall perform investigative action(s) to determine the cause of the Misoperation at least once every two full calendar quarters. Therefore, the second condition under SEVERE is either premature or inappropriate. We suggest to remove the second condition, or to revise it to read:

The responsible entity did not take action to identify whether or not its Protection System component(s) caused a Misoperation in accordance with Requirement R1.

e. VSL for R3: Second condition under SEVERE - similar comment as for the VSL for R1 preceding.

f. The SDT should reconsider the need for the defined term “Composite Protection System”. By definition, a Protection System is already a composite system whose components need to function collectively to protect an Element. The proposed term is redundant. The comment report indicated that 4 commenters representing 24 individuals requested clarification of the term “composite Protection System”. This represents a very low percentage of the total number of commenters and individuals, which should not be the basis for proposing the redundant new term.