**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 by 8:00 p.m. ET, June 30, 2014.

If you have questions please contact Scott Barfield-McGinnis at scott.barfield@nerc.net or by telephone at 404-446-9689.


**Background Information**

The fourth draft of PRC-004-3 – Protection System Misoperation Identification and Correction Reliability Standard was posted for a 45-day formal comment period from January 17 – March 11, 2014 with an additional ballot in the last ten days of the comment period according to the new Standards Process Manual, June 26, 2013. Stakeholders from approximately 99 companies representing nine of ten industry segments provided comment. The Protection System Misoperation Standard Drafting Team (PSMSDT or SDT) has responded to all commenters and developed a fifth draft of the standard based on stakeholder comment. Changes to the standard include, but are not limited to following areas.

**Summary of Changes**

The PSMSDT made two substantive revisions to the previous draft 4 following the additional 45-day formal comment period of the standard and additional ballot which received 62.63% stakeholder approval. The following narrative is a summary of the two substantive revisions and other minor revisions made to the proposed draft 5 of the standard.

**Definitions**

The definition of “Composite Protection System” was revised for clarity. The first substantive revision is the definition of “Misoperation” concerning the two categories of “Slow Trip – During Fault.” The revision removes the “a Fault condition is a Misoperation if high-speed performance was previously identified as being necessary to prevent voltage or dynamic instability” and uses the more clear “...if the duration of its operating time resulted in the operation of at least one other Element’s Composite Protection System.” The last category of “Unnecessary Trip – Other Than Fault” was revised slightly to clarify that a Protection System operation caused by on-site personnel is not a Misoperation and the SDT made other corresponding revisions to insert word “Composite” before “Protection System” for consistency with the proposed definition of “Composite Protection System.”

**Purpose Statement**

No revisions.
Facilities
An exclusion for Remedial Action Schemes (RAS) and Special Protection System (SPS) has been provided to increase clarity that these Protection Systems are not applicable to the standard.

Effective Dates
The extended implementation provision of 24 calendar months previously provided to entities in the Western Electric Coordinating Council (WECC) Region was eliminated. The provision was originally proposed due to a perceived conflict that is no longer valid. The effective date language was inserted into Section 6 of the standard for completeness.

Requirement R1
The SDT made a non-substantive revision to more clearly describe that the BES interrupting device operation that meets the three sub-parts (i.e., 1.1, 1.2, and 1.3) must all be true to have a Protection System operation that is reviewable for Misoperation.

Requirement R2
The requirement is the second substantive revision to address a gap in performance identified through continued review during the formal comment period. The previous draft did not have a provision for the responsible entity to initiate a reliability activity under the standard in the case of a Protection System failure to operate a BES interrupting device which is what initiates the activity to review for Misoperation.

The SDT determined that a failed Protection System would cause backup protection to operate other BES interrupting devices; therefore, it is practical to have the responsible entity that provided backup protection to notify the other entity of the potential failure. It is the notification that eliminates the gap and causes the other entity to review the Protection System for Misoperation under the next Requirement, R3.

Requirement R3
Minor word change.

Requirement R4
Minor clarity revision by adding “for a Misoperation” to more clearly reference the Misoperation identified in either Requirement R1 or R3.

Requirement R5
No change.

Requirement R6
No change.
Measures M1-M6
Each of the six Measures were updated to provide the entity that is required to demonstrate compliance, what is demonstrated, and the reference to the corresponding Requirement. Revisions were based on stakeholder comment and to be consistent with drafting team guidance for developing Measures.

Compliance
The SDT clarified for Requirement R5 that evidence retention relates to the “development” of the Corrective Action Plan (CAP), each evaluation, and each declaration.

VRFs and VSLs
The drafting team made a couple of minor typographical corrections identified by stakeholders.

Application Guidelines
The SDT made a significant number of additions and clarifications to address stakeholder comment. Most notably in the section discussing the definition of Composite Protection System.
Questions

Entities are encouraged to answer all questions and provide comment as requested in the questions. Enter comments in simple text format. Bullets, numbers, and special formatting will not be retained in this system.

1. Based on stakeholder input, the drafting team revised the proposed definition of “Misoperation.” Concerning the two categories of “Slow Trip.” The drafting team also clarified the proposed definition of “Composite Protection System.” Do you agree the revisions provided clarity? If not, please provide specific suggestions for improvement.

☐ Yes
☒ No

Comments: In the Composite Protection System definition “Backup protection provided to a remote Protection System is included.” is not clear because it directs the focus from the local protected Element to a remote protection system. Suggest revising this sentence to read “Backup protection provided by a remote protection system by design is included.”

2. Based on stakeholder input, the drafting team revised Requirement R2 to clarify responsibilities when local protection is responsible for the interrupting device operation and when backup protection is responsible. This also addresses the notifications that must occur to eliminate a gap in the previous draft. The gap was a condition where an entity’s BES interrupting device did not operate because of a failed Protection System; therefore, would not have been applicable to the standard. Do you agree that the gap has been eliminated with the change to Requirement R2? If not, please provide specific suggestions for improvement.

☐ Yes
☒ No

Comments: The case where manual intervention is required to open a BES interrupting device, but the cause of the Misoperation is located on a Protection System component owned by another Transmission Owner is not addressed in R2. In R1 a special mention to manual intervention is included. Why isn’t a process of notification included in R2 for manual intervention caused by Misoperation of another owner’s protection system?

3. 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:
4. If you have any other comments on this Standard that were not provided in response to the previous questions, please provide them here:

Comments: Regarding Section 5: Background (page 6), additional justification to explain the application of the standard would be beneficial.

As indicated in our previous comments, we disagreed with the omission of UVLS while UFLS is included. The SDT's response indicates that UVLS has not been included in the proposed standard's Applicability because Misoperations of UVLS relays are being addressed under Project 2008-02 – Undervoltage Load Shedding when modifying Reliability Standard PRC-022-1 – Under-Voltage Load Shedding Program Performance. This rationale is not sufficient to justify the inclusion of UFLS but exclusion of UVLS since both need to be assessed and treated the same. Note that the SAR for PRC-022-1 is being revised to include UFLS. We suggest the PRC-004 SDT coordinate with the PRC-022 SDT to apply a consistent approach to addressing Misoperations of UFLS and UVLS.

Requirement R1 does not work for the case where manual intervention to operate the BES device was required. Parts 1.1 thru 1.3 are all ANDS. Part 1.3 requires the Interrupting Device to be operated by the Protection System. This conflicts with the idea in Part 1.1 of MANUAL intervention. If an operator manually opens a breaker because the Composite Protection System does not clear a fault then the Protection System could not have operated the interrupting device. Therefore the threshold R1 would not be met and no identification is required even though the Composite Protection System may have failed-to-trip. Suggest Part 1.3 be revised to read:

The BES interrupting device owner identified that its Protection System component(s) caused the BES interrupting device(s) operation; or manual intervention was required to operate the BES interrupting device because its Protection System failed to operate.

Requirement R1 can be rephrased to provide clarity to the relationship of Parts 1.1 thru 1.3 to R1. Present phrasing has the added phrase, under the following circumstances, following Misoperation where it can ambiguously modify Misoperation. Clearly the intent is to describe the circumstances that a BES device owner has to embark on a process to identify a Misoperation. There are two inputs prior to beginning the process of identification; first the operation of a BES interrupting device occurs and second that the attributes of Parts 1.1 thru 1.3 are met. It would be clearer to place the reference to Parts 1.1 thru 1.3 prior to the word identify. Suggest Each Transmission Owner, Generator Owner, and Distribution Provider that owns a BES interrupting device that operated, and where such operation conforms to Parts 1.1 thru 1.3, shall, within 120 calendar days of the BES interrupting device operation, identify whether its Protection System component(s) caused a Misoperation.