Unofficial Comment Form
Project 2010-13.3 – Relay Loadability: Stable Power Swings

Please DO NOT use this form for submitting comments. Please use the electronic form to submit comments on the Standard. The electronic comment form must be completed by 8 p.m. Eastern Monday, June 9, 2014.

If you have questions please contact Scott Barfield-McGinnis, Standards Developer via email or by telephone at (404) 446-9689.

The project page may be accessed by clicking here

Background Information
This posting is soliciting formal comment.

This is Phase 3 of a three-phased standard development that is focused on developing a new Reliability Standard, PRC-026-1 – Relay Performance During Stable Power Swings, to address protective relay operations due to stable power swings. The March 18, 2010, FERC Order No. 733, approved Reliability Standard PRC-023-1 – Transmission Relay Loadability. In this Order, FERC directed NERC to address three areas of relay loadability that include modifications to the approved PRC-023-1, development of a new Reliability Standard to address generator protective relay loadability, and a new Reliability Standard to address the operation of protective relays due to stable power swings. This project’s SAR addresses these directives with a three-phased approach to standard development.

Phase 1 focused on making the specific modifications to PRC-023-1 and was completed in the approved Reliability Standard PRC-023-2, which became mandatory on July 1, 2012. Phase 2 focused on developing a new Reliability Standard, PRC-025-1 – Generator Relay Loadability, to address generator protective relay loadability; Phase 2 is currently awaiting regulatory approval. This Phase 3 of the project focuses on developing a new Reliability Standard, PRC-026-1 – Relay Performance During Stable Power Swings, to address protective relay operations due to stable power swings. This Reliability Standard will establish requirements aimed at preventing protective relays from tripping unnecessarily due to stable power swings by requiring the Transmission Owners and Generator Owners to assess the security of protective relay systems that are susceptible to operation during power swings, and take actions to improve security for stable power swings where such actions would not compromise dependable operation for faults and unstable power swings.

You do not have to answer all questions. Enter comments in simple text format. Bullets, numbers, and special formatting will not be retained.
*Please use the electronic comment form to submit your final comments to NERC.*

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Please note that the official comment form *does not* retain formatting (even if it appears to transfer formatting when you copy from the unofficial Word version of the form into the official electronic comment form). If you enter extra carriage returns, bullets, automated numbering, symbols, bolding, italics, or any other formatting, that formatting will not be retained when you submit your comments.

- Separate discrete comments by idea, e.g., preface with (1), (2), etc.
- Use brackets [] to call attention to suggested inserted or deleted text.
- Insert a “check” mark in the appropriate boxes by double-clicking the gray areas.
- **Do not use** formatting such as extra carriage returns, bullets, automated numbering, bolding, or italics.
- **Please do not repeat other entity’s comments.** Select the appropriate item to support another entity’s comments. An opportunity to enter additional or exception comments will be available.
- If supporting other’s comments, be sure the other party submits comments.

Questions

1. Do you agree with the focused approach using the criteria (see R1 & R2) which came from recommendations in the PSRPS technical document1 (pg. 21 of 61)? If not, please explain why or why not (e.g., the approach should be more narrow or more broad, and if so, the basis for a different approach).

   □ Yes  
   ☒ No

Comments: We agree with a focused approach as outlined in the technical document. However, we have the following serious concerns with criteria in the requirements:

1. The term “credible event” should be clearly defined. The basis to determine a credible event is missing from the requirement and application guide. This basis should be provided in the standard requirement.

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1 NERC System Protection and Control Subcommittee, Protection System Response to Power Swings, August 2013
2. Why is the standard focused on SOL rather than IROL? The basis for specifying SOL is not supported by the example in the application guideline since the example did not show inter-area impact.

3. It is not clear in R1, criteria number 4 whether the assessment should include relay tripping or just stable power swing or both stable and unstable power swing.

4. In R2, it is unrealistic to require an entity to provide data on an Element that had tripped since 2003. There is no existing NERC continent-wide disturbance monitoring or misoperation standard that requires data be retained more than 12 months. We recommend that this requirement be removed from the standard or include only Elements that were tripped in the last calendar year.

It must be noted that the standard is unsupported by the Protection System Response to Power Swings, System Protection and Control Subcommittee, August, 2013 document. Referring to p. 20, the “Need for a Standard” section, states “Based on its review of historical events, consideration of the trade-offs between dependability and security, and recognizing the indirect benefits of implementing the transmission relay loadability standard (PRC-023), the SPCS concludes that a NERC Reliability Standard to address relay performance during stable swings is not needed, and could result in unintended adverse impacts to Bulk-Power System reliability.” (Emphasis added). The following report references support the PSRPS document’s conclusion that this standard is not needed:

1) Page 8 of 61, 1965 Northeast Blackout Conclusion, first sentence “Relays tripping due…”
2) Page 8 of 61, 1977 New York Blackout Conclusions, first sentence, “Relays tripping due…”
3) Page 9 of 61, July 2-3, 1996: West Coast Blackout Conclusions, first sentence “Relays tripping due…”
4) Page 10 of 61, August 10, 1996 Conclusions, first sentence, “Relays tripping due.”
5) Page 16 of 61, 2003 Northeast Blackout Conclusion, “Relays tripping due…”
6) Page 17 of 61, Overall Observations from Review of Historical Events, first and second sentences, “Relays tripping…”
7) Page 19 of 61, final paragraph, “Given the …”

NERC’s informational filing in Docket No. RM08-13-000 dated July 21, 2011 concluded that there is a need for a standard on stable power swings. The subsequently developed PSRPS document, which was developed by industry experts and approved by the NERC Planning Committee, clearly refutes the FERC directive in Order No. 773 (Docket No. RM08-13-000), that was subsequently affirmed in Order Nos. 773-A and 773-B, that a standard is needed to ensure that load-responsive protective relays do not trip in response to stable power swings during non-Fault conditions. We recommend that the NERC Standards Committee explore means to utilize the more recent PSRPS document to obtain relief from the aforementioned FERC directive that is driving this project.
2. Do you agree that the Planning Coordinator, Reliability Coordinator, and Transmission Planner are the appropriate entities to identify the Elements that meet the criteria in Requirement R1? If not, please explain why an entity is not appropriate and/or suggest an alternative that should identify the Elements according to the criteria.

☐ Yes
☐ No
Comments:

3. Do you agree that the Generator Owner and Transmission Owner are the appropriate entities to identify the Elements that meet the criteria in Requirement R2? If not, please explain why an entity is not appropriate and/or suggest an alternative that should identify the Elements according to the criteria.

☐ Yes
☒ No

Comments: Requirement R2 requires GOs and TOs to evaluate Disturbance records “since January 1, 2003,” a time that will precede the effective date of this standard. A requirement CANNOT RELY UPON RECORDS THAT PRECEDE THE EFFECTIVE DATE OF A STANDARD. As an example, PRC-005-1, which was approved in Order 693, became effective on June 11, 2007, does not require a Registered Entity to have maintenance records available for the period of time that preceded the effective date in order to calculate the next maintenance interval for a relay. We recommend that this requirement be removed from the standard or include only Elements that were tripped in the last calendar year.

4. Do you agree with the approach in Requirement R3 to ensure that load-responsive protective relays do not trip in response to stable power swings during non-Fault conditions for an identified Element? If not, please explain.

☐ Yes
☒ No

Comments: The Purpose of the standard is “To ensure that load-responsive protective relays do not trip in response to stable power swings during non-Fault conditions.” The last sentence of Background, Section 5 implies that a protective relay, while blocking for a stable power swing also allows for dependable operation for fault and unstable power swing. Requirement R3 Bullet #4 is
contrary to the Purpose of the standard. The sub-Parts of R3 Bullet 4 are “or”, which means that if there isn’t dependable fault detection or dependable out-of-step tripping, agreement would just have to be obtained from the respective Planning Coordinator, Reliability Coordinator, and Transmission Planner of the Element that the existing Protection System design and settings are acceptable. The sub-Parts of R3 Bullet should be an “and”. Item b under the fourth bullet in Requirement R3 is not stated using clear and unambiguous language whereby responsible entities, using reasonable judgment, are able to arrive at a consistent interpretation of the required performance. The R3 Rationale and the Protection System Response to Power Swings technical document provide some clarity; however, the fourth bullet is not clear and troublesome from a compliance perspective. Suggest to consider revising the fourth bullet to ensure the responsible entity understands the balance between security and dependability and how that is to be achieved by either sub-parts “a” or “b”. The standard does not specify any time parameters for developing and correcting the conditions addressed by a CAP. We suggest that time parameters for developing and correcting the conditions addressed by the CAP be addressed within the requirements of the standard.

5. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

☐ Yes
☐ No
Comments:

6. Does PRC-026-1, Application Guidelines and Technical Basis provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Guidelines and Technical Basis.

☐ Yes
☒ No
Comments: In the Application Guidelines, the wording under Requirement 2 for credible event is very ambiguous and needs specificity.
7. Do you agree with implementation period of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

☐ Yes
☐ No

Comments:

8. If you are aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement please identify the conflict here:

☐ Yes
☒ No

Comments:

9. If you are aware of the need for a regional variance or business practice that should be considered with this phase of the project, please identify it here:

☐ Yes
☒ No

Comments:

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

Comments: Suggest that Associated Documents (at least those where there are no copyright concerns) be included in the standard as attachments or appendices as we are concerned that cited URLs will change over time.

The information in the Criteria and Criterion in the standard should not be in the requirements, but in the Rationale Boxes.