Unofficial Comment Form

Project 2019-04 Modifications to PRC-005-6

**Do not** use this form for submitting comments. Use the [Standards Balloting and Commenting System (SBS)](https://sbs.nerc.net/) to submit comments on the **Project 2019-04 Modifications to PRC-005-6 Standard Authorization Request (SAR)** by **8 p.m. Eastern, Friday, February 12, 2021.
m. Eastern, Thursday, August 20, 2015**

Additional information is available on the [project page](http://nercdotcomstage/pa/Stand/Pages/Project-2019-04-Modifications-to-PRC-005-6.aspx). If you have questions, contact NERC standards developer, Laura Anderson (via email), or at (404) 446-9671.

## Background Information

The North American Generator Forum (NAGF) received feedback from members indicating that there was confusion regarding the applicability of protective functions inside synchronous generator excitation systems to PRC-005. The primary cause of confusion is the use of the term (from the NERC Glossary of Terms) “Protection System,” which specifies ‘relays’ but not the protective functions that are typically (but not always) associated with relays. Excitation systems may measure and utilize similar quantities as protective relays and may perform similar functions as protective relays applicable to PRC-005. For this reason, the SAR drafting team agrees that the aforementioned protective functions within excitation systems and other control systems need to be clearly and explicitly applicable to PRC-005.

PRC-005 should be modified to provide clarity on the inclusion of BES protective functions enabled within excitation systems (analog/digital AVRs), and BES protective functions enabled within other control systems, that respond to electrical quantities and/or trip BES elements either directly or via lockout or auxiliary tripping relays. The clarifying changes would apply to BES Protection Systems and BES protective functions applied on generators, dispersed power producing resources from the point of aggregation (greater than 75 MVA) to the point of Interconnection, static and synchronous condensers and other BES elements as defined.

The SAR drafting team recommends considering the specification of American National Standards Institute (ANSI) Standard Device Numbers for the applicability to PRC-005 as outlined in the Applicability Section 4.2. Other considerations to provide clarity include: developing standard-specific definitions, developing or revising existing terms in the NERC Glossary of Terms, or making other modifications to the Applicability Section.

The maintenance tables should be updated to include the aforementioned BES protective functions enabled within other control systems, and the associated maintenance activities and intervals.

Additionally, the maintenance tables should be updated to include new DC supply technologies for Protection System(s) not currently captured.

Entities registered as ULFS-Only Distribution Providers (DPs) have PRC-005 applicable Protection Systems, but are not expressly listed as Applicable Entities in Section 4.1. UFLS-Only DPs should be added to the Applicability Section to avoid any confusion and to be consistent with the FERC-approved Risk-Based Registration (RBR) changes.

## Questions

1. The NERC Glossary of Terms defines Protection System as: “*Protection System –*
* *Protective relays which respond to electrical quantities,*
* *Communications systems necessary for correct operation of protective functions,*
* *Voltage and current sensing devices providing inputs to protective relays,*
* *Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply), and*
* *Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.*”

This definition omits protective functions in the excitation and other control systems that respond to electrical quantities and voltage/current sensing devices providing inputs to protective functions. In addition, the SAR drafting team found that the lack of a definition for protective function creates confusion and potential reliability gaps. These protective functions often measure the same quantities and respond similarly to protective relays. Do you agree that this definition creates confusion with regards to protective functions that behave similarly to protective relays but are embedded in control systems? If you do not agree, or if you agree but have comments or suggestions, please provide your recommendation or proposed modification in the comments section.

[ ]  Yes

[ ]  No

Comments:

1. The SAR drafting team determined that BES protective functions that respond to electrical quantities inside excitation systems (including analog/digital AVRs) should be clarified as included in PRC-005, in addition to BES protective functions inside other control systems for BES elements. Do you agree that BES protective functions that respond to electrical quantities inside excitation systems and BES protective functions for other BES element control systems should be included in PRC-005? If you do not agree, or if you agree but have comments or suggestions, please provide your recommendation or proposed modification in the comments section.

[ ]  Yes

[ ]  No

Comments:

1. The SAR drafting team determined that there are Protection System Station DC supply technologies that do not currently have maintenance activities in Reliability Standard PRC-005. Do you agree the standard should provide for the use of alternative Protection System Station DC supply technologies (battery-based and non-battery-based), and ensure that they are subject to maintenance requirements? If you do not agree, or if you agree but have comments or suggestions, please provide your recommendation or proposed modification in the comments section.

[ ]  Yes

[ ]  No

Comments:

1. Entities registered as ULFS-only DPs have PRC-005-applicable Protection Systems, but are not expressly listed as Applicable Entities in Section 4.1. UFLS-only DPs should be added to the Applicability Section to avoid any confusion and to be consistent with the FERC-approved RBR registration changes. [Project 2017-07 Standards Alignment with Registration](http://nercdotcomstage/pa/Stand/Pages/Project201707StandardsAlignmentwithRegistration.aspx). Do you agree with adding UFLS-only DPs as a Functional Entity applicable to PRC-005 to align with registration? If you do not agree, or if you agree but have comments or suggestions, please provide your recommendation or proposed modification below.

[ ]  Yes

[ ]  No

Comments:

1. Are there any logistical or cost considerations that would add significant burden to equipment owners trying to confirm BES protective functions in an exciter, inverter, or other control system? If so, do you have a more cost-effective suggestion to accomplish the objective of the SAR that the drafting team should consider?

[ ]  Yes

[ ]  No

Comments:

1. Please provide any additional comments for the SAR drafting team to consider, if desired.

Comments: