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, Wednesday, July 8, 2020.
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 Laura Anderson, 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 NERC term “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 often 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 will be modified to provide clarity on the inclusion of protective functions enabled within excitation systems (analog/digital Automatic Voltage Regulators (AVRs)), and other control systems that respond to electrical quantities and act to cease injecting current, or trip Bulk Electric System (BES) elements either directly or via lockout or auxiliary tripping relays. The clarifying changes would apply to BES Protection Systems and 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 ANSI Standard Device Numbers for the applicability to PRC-005 as outlined in the Applicability Section 4.2. Other options 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 protective functions within control systems, and the associated maintenance activities and intervals.

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

This project would modify Reliability Standard PRC-005 to be consistent with the Federal Energy Regulatory Commission (FERC)-approved changes to registration as part of the Risk Based Registration (RBR) initiative and to add Underfrequency Load Shedding (UFLS)-only Distribution Providers (DPs) in the Applicability Section.

## Questions

1. The SAR drafting team determined that BES protective functions that respond to electrical quantities inside excitation systems (including analog/digital AVRs) should be included in PRC-005, in addition to 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 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, provide your recommendation or proposed modification in the comments section.

[ ]  Yes

[ ]  No

Comments:

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 may measure similar quantities and may yield similar outcome as protective relays. Do you agree that this definition creates confusion with regards to protective functions embedded in control systems? If you do not agree, or if you agree but have comments or suggestions, 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 emerging 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, 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, 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 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. Provide any additional comments for the drafting team to consider, if desired.

Comments: