

NAGF Call 3/22/19
PRC-005-6 AVR Protective Functions

Summary of 3/22/19 call:

Continued discussions regarding PRC-005-6 applicability to AVR protective functions and reviewed notes from last week. It is obvious that the industry is struggling with this topic, both with applicability and with methods of testing, and additional guidance is necessary.

- Don Lock provided an overview of the history of applicability (see NAGF discussion RE: Cliffnotes on AVR, PRC-005, and Protection).
- Discussed the discrete applicability of what in the AVR system is (or should be)
 - Limiters typically do not meet the definition of a protective function; however, relays do)
 - AVR protection system if directly opens a breaker or via a lockout
- Discussed the difficulty in testing to meet the PRC-005-6 requirements given the complexity of the digital system and the many different designs/manufacturers of digital AVRs.
- Need to also consider cascading Standard applicability (e.g., PRC-019, PRC-024, PRC-026, PRC-004, MOD-026, PRC-001)
- Again referred to Scott Barfield-McGinnis (NERC) response to the NAGF's original questions.
 - Although it seems clear that NERC intends that AVR protective functions should be in scope of PRC-005-6, the existing wording (below) in PRC-005-6 does not provide enough clarity
 - Consider requesting similar guidance as in PRC-019 Requirement R1 (and footnote).

PRC-005-6 applicability:

4.2.5.3 Protection Systems and Sudden Pressure Relaying for station service or excitation transformers connected to the generator bus of generators which are part of the BES, that act to trip the generator either directly or via lockout or tripping auxiliary relays.

PRC-019 R1 & footnote

R1. At a maximum of every five calendar years, each Generator Owner and Transmission Owner with applicable Facilities shall coordinate the voltage regulating system controls, (including in-service¹ limiters and protection functions) with the applicable equipment capabilities and settings of the applicable Protection System devices and functions.

¹ Limiters or protection functions that are installed and activated on the generator or synchronous condenser.

Next Steps:

- Draft SAR requesting additional guidance be added to NERC Standard PRC-005-6 and the PRC-005-6 Supplementary Reference and FAQ (owner – Alison Mackellar)
- Communicate status of the NAGF discussions and proposed next steps to Scott Barfield-McGinnis at NERC (owner – Mike Gabriel)
- **Next Call scheduled for 3/29/19 1200CT/1300ET (call in information below)**
- A copy of these notes and reminder of next call will also be posted to the NAGF website

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Subject: FW: AVR, PRC-005 and protection - drafting meeting

When: Occurs every Friday effective 3/22/2019 until 5/3/2019 from 1:00 PM to 2:00 PM Eastern Standard Time.

Where: Skype Meeting

Recurring meeting to discuss PRC-005-6 AVR Protective Functions

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