Table of Issues and Directives

Project 2010-13.3 – Relay Loadability: Stable Power Swings

Table of Issues and Directives Associated with PRC-026-1			
Source	**Issue or Directive Language (including Para. #)**	**Section and/or Requirement(s)**	**Consideration of Issue or Directive**
FERC Order 733	**150.** We will not direct the ERO to modify PRC-023-1 to address stable power swings. However, because both NERC and the Task Force have identified undesirable relay operation due to stable power swings as a reliability issue, we direct the ERO to develop a Reliability Standard that requires the use of protective relay systems that can differentiate between faults and stable power swings and, when necessary, phases out protective	All requirements	The PRC-026-1 standard is responsive to this directive because it applies a focused approach to identify BES Elements according to Requirement R1 for the Planning Coordinator, Reliability Coordinator, and Transmission Planner. Similarly in Requirement R2 for the Generator Owner and Transmission Owner. The criterion used to identify a BES Element is based on the PSRPS technical document ("PSRPS Report").[1] Requirement R3 is responsive to the directive by requiring the Generator Owner and Transmission Owner to perform one of the listed options in Requirement R3.

[1] NERC System Protection and Control Subcommittee technical document, *Protection System Response to Power Swings*, August 2013: http://www.nerc.com/comm/PC/System%20Protection%20and%20Control%20Subcommittee%20SPCS%2020/SPCS%20Power%20Swing%20Report_Final_20131015.pdf

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	relay systems that cannot meet this requirement. We also direct the ERO to file a report no later than 120 days of this Final Rule addressing the issue of protective relay operation due to power swings. The report should include an action plan and timeline that explains how and when the ERO intends to address this issue through its Reliability Standards development process. **AND** **153.** While we recognize that addressing stable power swings is a complex issue, we note that more than six years have passed since the August 2003 blackout and there is still no Reliability Standard that addresses relays tripping due to stable power swings. Additionally, NERC has long identified undesirable relay operation		The following is a summary of what each option achieves: -Ensures that the Protection System without power swing blocking (PSB) applied is not expected to trip in response to a stable power swing. -Ensures that the Protection System is not expected to trip in response to a stable power swing because (PSB) is applied. -Ensures a Corrective Action Plan (CAP) is developed to modify the Protection System or apply power swing blocking so that the Protection System is not expected to trip in response to a stable power swing. -Ensures that where earlier options do not result in dependable fault detection or dependable out-of-step tripping that the Generator Owner and Transmission Owner: (a) obtain the agreement of the Planning Coordinator, Reliability Coordinator, and Transmission Planner that the existing Protection System design and settings are acceptable, or (b)) obtain the agreement of the Planning Coordinator, Reliability Coordinator, and Transmission Planner

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	due to stable power swings as a reliability issue. Consequently, pursuant to section 215(d)(5) of the FPA, we find that undesirable relay operation due to stable power swings is a specific matter that the ERO must address to carry out the goals of section 215, and we direct the ERO to develop a Reliability Standard addressing undesirable relay operation due to stable power swings.		that a modification of the Protection System design, settings, or both are acceptable, and develop a CAP to implement the modification. Requirement R4 requires the entity to implement each developed CAP to modify the Protection System.
	162. The PSEG Companies also assert that the Commission's approach to stable power swings should be inclusive and include "islanding" strategies in conjunction with out-of-step blocking or tripping requirements. We agree with the PSEG Companies and direct the ERO to consider "islanding" strategies that achieve the fundamental performance for all islands in	Requirement R1, Criterion 3 and Requirement R2, Criterion 2.	Islanding strategies were considered during the development of the proposed standard. It was determined that consideration of islanding strategies does not comport with the purpose of the proposed standard. The proposed standard's purpose is to ensure that load-responsive protective relays do not trip in response to stable power swings during non-Fault conditions, not to determine where the transmission system Elements should form island boundaries.

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	developing the new Reliability Standard addressing stable power swings.		With respect to considering the islanding concern, the proposed standard does require that an Element that was part of a boundary that formed an island since January 1, 2003 be identified as an that is within the scope of the proposed standard. Any identified Element(s) require the Generator Owner and Transmission Owner entities to determine whether its load-responsive protective relays applied at the terminal of such an Element, if any, are susceptible to tripping in response to a stable power swing. If so, the Generator Owner and Transmission Owner is required to take specific action according to the requirements to reduce the risk that its load-responsive protective relays would trip in response to stable power swings during non-Fault conditions.
Issue(s)	None.		