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Issue

WECC-0107 PSS Design and Performance
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Standard

On June 25, 2014, the WSC changed the scope of the WECC-0107 SAR as follows:

The proposed document should be structured as follows: PSS: 1) where installed, shall be operating unless specifically exempted, 2) shall be tuned as specified, and 3) where not installed, installation shall be required - when a generator is newly interconnected to the Bulk-Electric System (BES) or when a generator is updated.

This document will merge with WECC-0094 [VAR-501-WECC-1](#) on Power System Stabilizers and incorporate the outcome of WECC-0105, P81 review. The P81 ballot closed July 18, 2014.

WECC's Power System Stabilizer (PSS) program currently meets the Interconnection's reliability needs; however, the associated policies and procedures are voluntary and are not always consistently implemented. This Standards Authorization Request (SAR) is designed to:

- 1) Update and codify WECC's PSS program,
- 2) Establish a minimum design criteria for installation of new PSS-related equipment,
- 3) Standardize tuning procedures for that equipment, and
- 4) Identify those facilities to which the PSS applies.

In preparation for this SAR, WECC's Control Work Group reviewed numerous PSS-related documents under the WECC-0099 SAR (retired by the WSC on February 11, 2014) and is recommending that certain substance from those reviewed documents be excerpted and addressed in a WECC Regional Reliability Standard (RRS).

To the extent the DT identifies any additional information best suited for other WECC Document Categories, the DT also seeks permission to draft those documents accordingly.

It is recommended that the Purpose statement of the RRS should begin with the following:

"To ensure the Western Interconnection is operated in a coordinated manner under normal and abnormal conditions, by establishing the tuning and performance criteria for WECC Power System Stabilizers."

Generator Owner, Reliability Coordinator

Notes:

- To ensure drafting continuity, this SAR encourages the members of the CWG to self-nominate as a means to encourage continuity between WECC-0099 and this project.
 - The DT should review the NERC Functional Model and decide on the best applicable entities to meet the tasks assigned.
 - The DT should review recent studies conducted concerning PSS response within WECC and consider the information when drafting requirements.
- The following is a suggested structure for the proposed standard. The listed applicable entities are only a starting place. The DT should review the NERC Functional Model and assign each task to the most appropriate entity.

The DT should identify the specific facilities to which the standard applies.

R1. Each Generator Owner shall install Power System Stabilizers that meet the following criteria:
1) [DT should specify design criteria]

R2. Each Generator Owner shall tune its Power System Stabilizers to achieve the following response criteria:
1) [DT should specify tuning criteria]

R3. Each Generator Owner shall validate the performance of its Power System Stabilizers using the following methods:
1) [DT should specify]

R4. Each Generator Owner shall provide performance results to the Reliability Coordinator within [time window] of the request.

R5. Each Reliability Coordinator shall instruct the Generator Owner to make changes to the Generator Owner's Power System Stabilizer tuning, within [time window] of its review of the Power System Stabilizer performance results as required in Requirement X.

R6. Each Generator Owner shall:
1) Implement changes to its Power System Stabilizers tuning no later than [time window], as instructed by the Reliability Coordinator in Requirement X.
2) Each Generator Owner shall provide report its performance results to the Reliability Coordinator within [time window] after implementing the tuning change required in Requirement X.

This SAR recommends the following:

- 1) The DT should consider the WECC-0099 DT's review of PSS related documents and extract from those documents the recommended substance for importation into this RRS.
- 2) The DT review recent studies conducted concerning PSS response within WECC and consider the information when drafting requirements.
- 3) The DT should establish the minimum criteria describing:
 - a) the circumstances and/or design criteria in which installation of PSS equipment is required,
 - b) a standardized approach to PSS tuning and testing,
 - c) a standardized approach to communication of testing data and remediation of operations identified in that data.

A preliminary Power System Stabilizer Study can be found in the Documents section of the WECC-0099 Team Site.

1. The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy, 2. Standard or Criterion shall not give any market participant an unfair competitive advantage, 3. Standard or Criterion shall neither mandate nor prohibit any specific market structure, 4. Standard or Criterion shall not preclude market solutions to achieving compliance with that Standard, 5. Standard or Criterion shall not require the public disclosure of commercially sensitive information.
1. Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions

The CWG has vigorously reviewed a number of PSS-related documents. That review can be found in the Document section of the WECC-0099 Team Site located here.

May also affect VAR-501-WECC-1 Power System Stabilizer RRS.

If the drafter is aware of any regulatory documents that may directly affect the course of a drafting team, those documents should be identified here. For example, this section would include NERC/WECC/NAFSR Standards, WFCG Criteria, and WFCG Regional Business Practices.

already in place as well as proposed. Please specify the "Version" of each document to be considered.

Is this Request in response to a
NERC "Fill-in-the-Blank" Standard?
Attachments

No

***** STAFF ONLY *****

Status
Comment
WECC Trading Number
Date Assigned to SC
Drafting Next Meeting
Standing
SC Assigned to Draft
Board
Archive/Withdrawn Date
URL
Grouping
NERC/WECC Standard/Criterion Number
Created at 2/11/2014 3:20 PM by sblack@wecc.biz
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Posting 2 for comment October 15 through November 20, 2014.
WECC-0107
2/11/2014
10/9/2014
WECC-0107 PSS Design and Performance
WECC Standards
TBD

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