

Comment Report

Project Name: WECC - Regional Reliability Standard | VAR-501-WECC-3
Comment Period Start Date: 12/12/2016
Comment Period End Date: 1/25/2017
Associated Ballots:

There were 5 sets of responses, including comments from approximately 5 different people from approximately 5 companies representing 5 of the Industry Segments as shown in the table on the following pages.

Questions

1. Do you agree the development of VAR-501-WECC-3 met the “Open” criteria as outlined above? If “No”, please explain in the comment area below.
2. Do you agree the development of VAR-501-WECC-3 met the “Inclusive” criteria as outlined above? If “No”, please explain in the comment area below.
3. Do you agree the development of VAR-501-WECC-3 met the “Balanced” criteria as outlined above? If “No”, please explain in the comment area below.
4. Do you agree the development of VAR-501-WECC-3 met the “Due Process” criteria as outlined above? If “No”, please explain in the comment area below.
5. Do you agree the development of VAR-501-WECC-3 met the “Transparent” criteria as outlined above? If “No”, please explain in the comment area below.

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Katherine Prewitt	Southern Company Services, Inc.	1	SERC
					R. Scott Moore	Alabama Power Company	3	SERC
					William D. Shultz	Southern Company Generation	5	SERC
					Jennifer G. Sykes	Southern Company Generation and Energy Marketing	6	SERC

1. Do you agree the development of VAR-501-WECC-3 met the “Open” criteria as outlined above? If “No”, please explain in the comment area below.

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Bishnu Sapkota - GE - GE Power Systems Energy Consulting - 10 - WECC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Lynda Kupfer - Puget Sound Energy, Inc. - 1,3,5

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

2. Do you agree the development of VAR-501-WECC-3 met the “Inclusive” criteria as outlined above? If “No”, please explain in the comment area below.

Bishnu Sapkota - GE - GE Power Systems Energy Consulting - 10 - WECC

Answer No

Document Name

Comment

We have reviewed the proposed standard VAR-501-WECC-3, Power System Stabilizers. In general, the document looks good, however, we see a need for adjustment on the requirement R3 of the document.

The requirement R3 states that the final PSS gain should be between 1/3 (10 dB) to 1/2 (6 dB) of the maximum practical gain that could be achieved during PSS commissioning. The maximum practical gain may also be associated with the interactions of the PSS with low-order torsional modes of the turbine-generator unit which may or may not be evaluated during the PSS commissioning test. Accordingly, the PSS gain may need to be kept lower than 1/3 of the maximum practical gain that can be proved during the testing. The reason for this recommendation is to avoid any potential detrimental issues associated with the above-mentioned torsional interactions. So, we would recommend to make adjustment in the statement as follows:

The final PSS gain should not be greater than 1/3 of the maximum practical gain.

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Lynda Kupfer - Puget Sound Energy, Inc. - 1,3,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

3. Do you agree the development of VAR-501-WECC-3 met the “Balanced” criteria as outlined above? If “No”, please explain in the comment area below.

Bishnu Sapkota - GE - GE Power Systems Energy Consulting - 10 - WECC

Answer No

Document Name

Comment

Please refer to the comment for question 2.

Likes 0

Dislikes 0

Response

Lynda Kupfer - Puget Sound Energy, Inc. - 1,3,5

Answer Yes

Document Name

Comment

Comment:

Please clarify the conditions and timing under which an automatic voltage regulator without PSS, or a PSS that cannot meet the tuning requirements in R3 would have to be replaced.

Our interpretation for R4 is that only if we were replacing the voltage regulator on an existing exciter would we have to add PSS to a unit that doesn't currently have it.

R3.5 provides an exemption for PSS that cannot be tuned but R5 requires repair or replacement within 24 months of determining it cannot be tuned to the standard requirements. Because R3 is effective 5 years after approval for existing systems, would we then have 2 years after that to replace PSS that cannot be tuned to the specifications?

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name

Comment

1. Redline, page 14, Section Requirement R3, first sentence: What is RRS? Should RSS be RRS (regional reliability standard)?

2. **With regard to the draft standard section R3.3: PSS Gain shall be set to between 1/3 and 1/2 of maximum practical gain.**

The SDT should define "maximum practical gain". Is this meant to be the gain value resulting in the threshold of instability? In defining the maximum practical gain, one must account for older PSS systems and the newer dual input PSS units using the integral of accelerating power which are stable at significantly higher gains.

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

4. Do you agree the development of VAR-501-WECC-3 met the “Due Process” criteria as outlined above? If “No”, please explain in the comment area below.

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer No

Document Name

Comment

In general, Reclamation supports the changes proposed in VAR-501-WECC-3. Reclamation requests that the standard be revised to contain clarifying language regarding the allowance for a PSS to be out of service in R2: Is a PSS outage of 30 minutes considered a violation or not? During what interval is “more than 30 minutes” considered a violation – per occurrence, or a total per year?

Reclamation suggests that R3 be clarified to state that each Generator Owner shall tune its PSS to meet “ALL” the following criteria (3.1 “and” 3.2 “and” 3.3 “and” 3.4 “OR” 3.5) in order to better align with the VSL for R3 which indicates a violation if ANY of the criteria are not met.

R4 by itself can be misinterpreted to mandate installation of PSS on existing generators. To avoid confusion, BOR recommends copying the text of the "Mandate to Install a PSS" section (on page 8 of the Clean version) to a third bullet under R4.

R5 may be overly restrictive given procurement issues that entities, especially federal agencies, could experience. The clause “**or a plan to repair or replace not to exceed 36 months**” should be included to offset the possibility of unforeseen delays that could cause a possible violation beyond the entity's control.

In the Evidence Retention section, it is unclear what the phrase "plus calendar current" means

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Lynda Kupfer - Puget Sound Energy, Inc. - 1,3,5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Bishnu Sapkota - GE - GE Power Systems Energy Consulting - 10 - WECC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

5. Do you agree the development of VAR-501-WECC-3 met the “Transparent” criteria as outlined above? If “No”, please explain in the comment area below.

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Bishnu Sapkota - GE - GE Power Systems Energy Consulting - 10 - WECC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	