Individual or group. (7 Responses)
Name (4 Responses)
Organization (4 Responses)
Group Name (3 Responses)
Lead Contact (3 Responses)
Question 1 (7 Responses)
Question 1 Comments (7 Responses)
Question 2 (7 Responses)
Question 2 Comments (7 Responses)
Question 3 (7 Responses)
Question 3 Comments (7 Responses)
Question 4 (7 Responses)
Question 4 Comments (7 Responses)
Question 5 (7 Responses)
Question 5 Comments (7 Responses)
Question 6 (0 Responses)
Question 6 Comments (7 Responses)

Group
Arizona Public Service Company
Janet Smith, Regulatory Affairs Supervisor
Yes
No
No
No
Yes
E.A.15 to E.A.17 are unnecessary requirements and do not improve reliability in any way. Typically a TO will ask a GO to simply increase or decrease a VAR output of a generator and then leave the generator at that voltage set point till further notified. Thus, there are no set point calculations to be made and typically a GO will not know how to make those calculations. Also, such calculations are unnecessary and do not improve the reliability of the system in anyway and unnecessarily add burden to GO. E.A.15 requires the conversion of voltage schedules to set point for generator excitation system which is typically voltage regulator set point. Voltage regulator set points are not necessarily same as the terminal voltage set points depending upon the excitation system type. There should be an option to convert the voltage schedules to the terminal voltage also. The following wording is suggested: E.A.15 Each Generator Operator shall convert the voltage schedule specified in Requirement E.A.13 into the voltage set point for the generator excitation system or generator terminal voltage.
Group
PacifiCorp
Sandra Shaffer
Yes
No
No

No
Yes
Wehat is the minimum size of the generation resources which are subject to these requirements?
Individual
Annie Lauterbach / Frank Puyleart / Steve Hitchens / Bart McManus / Rebecca Berdahl
Bonneville Power Administration
Yes
No
BPA will not be changing its operations due to this variance, therefore, do not expect impacts to reliability or commerce in a neighboring region or interconnnection.
No
BPA will not be changing its operations due to this variance, therefore,BPA does not expect impacts to public health, safety, welfare or national security.
No
BPA will not be changing its operations due to this variance, therefore, BPA does not expect impacts on competitive markets within the interconnection that is not necessary for reliability.
Yes
a. BPA believes the proposed variance has more specific criteria for the same requirements covered in the continent-wide standard. b. BPA believes the proposed variance has requirements that are not included in the corresponding continent-wide reliability standard. c. BPA believes the proposed regional variance is necessitated by a physical difference in the bulk power system. BPA believes the proposed variance has more specific criteria for the same requirements covered in the continent-wide standard and that the WECC reliability requirement for having generators' AVR's Voltage Control Mode necessitates the proposed regional variance.
Group
Salt River Project
Cindy Oder
Yes
No
No
No
Yes
Individual
Brenda Powell
Constellation Energy Commodities Group
Yes
No
No

No
No
The WECC variance to VAR-001 inappropriately mimics VAR-002 for GOPs. The WECC VAR-001 Variance drafting team states “the purpose of this regional variance to a NERC Reliability Standard is to ensure that voltage levels are within limits in real time to protect equipment and the reliable operation of the Western Interconnection.” Meanwhile, the VAR-002 purpose states “To ensure generators provide reactive and voltage control necessary to ensure voltage levels, reactive flows, and reactive resources are maintained within applicable Facility Ratings to protect equipment and the reliable operation of the Interconnection.” These purpose statements are very similar, and reflect the coordinated nature of operations and the applicability of these standards. VAR-001 was written to ensure that TOPs, PSEs, and LSEs maintain voltage levels, reactive flows, and reactive resources. VAR-002 was written to ensure that GOPs do the same thing at the direction of TOPs. Adding generator specific requirements to VAR-001 ignores the function of VAR-002 and is counter to the intent of VAR-001 and VAR-002. This variance is not the correct way to ensure that WECC GOPs are operating in auto voltage control. Further, there are no physical differences in the BES in WECC to justify the generator specific requirements in VAR-001. The generator specific requirements being proposed are more specific versions of the requirements found in VAR-002, but do not add any new improvements to reliability It would be more efficient and effective for the issues raised by the WECC VAR-001 Variance drafting team to be considered within a revision of VAR-002 from a region-wide basis. Aspects in need of improvement within VAR-002- have already been raised at the NERC level. NERC issued a CAN on VAR-002- and an interpretation request is under consideration. WECC should issue a SAR for revision of VAR-002 rather than pursue this variance.
Below, Constellation raises comments on the generator specific requirements. Note that Constellation raised these points during the WECC comment period, but the issues were not addressed in the comment responses. •VAR-001-2 E.A.15 states: “Each Generator Operator shall convert each voltage schedule specified in Requirement E.A.13 into the voltage set point for the generator excitation system” While VAR-002 R2 states “…each GOP shall maintain generator voltage or Reactive Power output (within applicable Facility Ratings) as directed by the TOP.” These are redundant, but potentially confusing. Interconnected entities should not direct how, operationally, a GOP should comply with a request; they should just mandate that they follow through with the request. Documenting how a GOP complies with a voltage set point does not have a reliability impact on the BES. •E.A.16 – This requirement is not clear. The proposed requirements do not require a GOP to have a voltage set point conversion methodology, yet E.A.16 requires that such a methodology be available. A voltage set point conversion methodology should not be required as it does not have a reliability impact on the BES. •E.A.18 – As Constellation stated above regarding E.A.15, how a GOP manages its operations to comply with a voltage set point is inconsequential. The relevant point is that GOPs comply with the requests given to them from their interconnected entities.
Individual
Amir Hammad
Constellation Power Source Generation, Inc
Yes
No
No
No
No
The proposed variance does not meet any of the above criteria and adds confusion to the relationship between VAR-001 and VAR-002. The WECC variance to VAR-001 inappropriately mimics VAR-002 for GOPs. The WECC VAR-001 Variance drafting team states “the purpose of this regional variance to a

NERC Reliability Standard is to ensure that voltage levels are within limits in real time to protect equipment and the reliable operation of the Western Interconnection." Meanwhile, the VAR-002 purpose states "To ensure generators provide reactive and voltage control necessary to ensure voltage levels, reactive flows, and reactive resources are maintained within applicable Facility Ratings to protect equipment and the reliable operation of the Interconnection." These purpose statements are very similar. They reflect the coordinated nature of operations and the applicability of these standards. VAR-001 was written to ensure that TOPs, PSEs, and LSEs maintain voltage levels, reactive flows, and reactive resources. VAR-002 was written to ensure that GOPs do the same thing at the direction of TOPs. Adding generator specific requirements to VAR-001 ignores the function of VAR-002 and is counter to the intent of VAR-001 and VAR-002. The generator specific requirements proposed in the variance may be more specific than those in VAR-002, but the addition to VAR-001 does not add any improvements to reliability. This variance is not the correct way to ensure that WECC GOPs are operating in auto voltage control Further, there are no physical differences in the BES in WECC to justify the generator specific requirements in VAR-001. It would be more efficient and effective for the issues raised by the WECC VAR-001 Variance drafting team to be considered within a revision of VAR-002 from a region-wide basis. Aspects in need of improvement within VAR-002- have already been raised at the NERC level. NERC issued a CAN on VAR-002- and an interpretation request is under consideration. WECC should issue a SAR for revision of VAR-002 rather than pursue this variance.

Below, Constellation raises comments on the generator specific requirements. Note that Constellation raised these points during the WECC comment period, but the issues were not addressed in the comment responses. VAR-001-2 E.A.15 states: "Each Generator Operator shall convert each voltage schedule specified in Requirement E.A.13 into the voltage set point for the generator excitation system" While VAR-002 R2 states "…each GOP shall maintain generator voltage or Reactive Power output (within applicable Facility Ratings) as directed by the TOP." These are redundant, but potentially confusing. Interconnected entities should not direct how, operationally, a GOP should comply with a request; they should just mandate that they follow through with the request. Documenting how a GOP complies with a voltage set point does not have a reliability impact on the BES. E.A.16 – This requirement is not clear. The proposed requirements do not require a GOP to have a voltage set point conversion methodology, yet E.A.16 requires that such a methodology be available. A voltage set point conversion methodology should not be required as it does not have a reliability impact on the BES. E.A.18 – As Constellation stated above regarding E.A.15, how a GOP manages its operations to comply with a voltage set point is inconsequential. The relevant point is that GOPs comply with the requests given to them from their interconnected entities.

Individual

Michelle R D'Antuono

Elk Hills Power LLC

Yes

The variance was initiated under the WECC Standard development process in late 2008. The completed Criterion was approved by the WECC board in June 2011 and is now being proposed as a Regional Variance to VAR-001.

Yes

In the view of Elk Hills Power, the removal of requirement R3 exempting some generators from adhering to a voltage/Reactive Power schedule is reasonable. Even older units without AVRs should provide some means to adjust generator output as needed to support the local transmission system. The requirements E.A.13 through E.A.18 that look to assure that AVR voltage set points are converted properly from the TOP's schedule are also a reliability improvement. However, we are concerned that the assignment of responsibility to the GOP to assure that the conversion is optimally performed is misplaced. The following excerpt on page 3 of the draft standard captures our viewpoint. "During the VAR-002-WECC-1 standard development process, the industry comments noted that not all WECC Transmission Operators provide voltage schedules to their Generator Operators. Providing reactive power schedules (instead of specific voltage levels) forces Generator Operators to manually adjust their AVR voltage setting to a setting that will provide the exact amount of reactive power in the schedule. It is recognized that during the course of a day, system dynamics may result in changes in reactive output such that the generator will no longer produce the amount of reactive power specified by the Transmission Operator's reactive power schedule. If the Generator Operator alters the amount

of reactive power provided by the generator to return it to the schedule, there is higher risk that such action will result in the generator doing the exact opposite of what is needed to maintain system reliability: ensuring that generators provide the proper voltage support when generation and transmission outages occur." Since the TOP is responsible for the voltage stability within their footprint, it is not clear to us why they would want to assume the GOP has the expertise to convert a Reactive Power schedule to a voltage set point – especially when the wrong steps could be taken by a GOP during an incident that would be perfectly correct under normal operating conditions. If the TOP chooses to not provide voltage set points for whatever reason, then we believe that they should provide the proper conversion methodology as well. This would likely involve a technical discussion with the GOP and perhaps the generator vendor, but is based upon the TOP's own decision to provide a Reactive Power schedule only. Of even further concern is requirement E.A.18 regarding the use of control loops external to the AVR. Elk Hills Power takes this to mean Automatic Generation Control (AGC) which is managed by the Balancing Authority in support of secondary frequency response. Similar to the discussion above, AGC operating parameters must be supplied and owned by the BA if they expect proper performance under stress conditions. In this case, the BA may need to engage the GOP and TOP to develop the correct settings, but ultimately it is their responsibility. Furthermore, E.A.18 does not even name the Balancing Authority as an interested party. The way the requirement is written, it is conceivable that the GOP and TOP will agree upon a change to the AGC's voltage response without BA's knowledge – which may then impact the expected frequency response. This seems to Elk Hills Power that a reliability gap is introduced through the improper assignment of responsibility.
Yes
NERC and FERC have clearly assigned a high priority to improving the voltage response, and the primary and secondary frequency response of the BES. Within the last six months, very detailed standards have been posted for industry review under Project 2007-09 – Generator Verification and Project 2007-12 – Frequency Response. They leave no doubt that, while complex, the proper identification of voltage and frequency-response settings is crucial to the reliability of the BES. Without tight coordination between planning, owning, and operating entities, it is far too easy to actually make the BES less reliable – which translates to power outages at the worst possible times.
Yes
By improperly assigning the ownership of the requirements to establish AVR and AGC voltage set points and other parameters not clearly identified by the BA and TOP, Elk Hills Power believes that the potential reliability benefit is lost. In addition, Elk Hills Power will be required to maintain conversion methodologies for which they have no systems or tools to demonstrate that they are optimally supporting the local system.
Yes
The variance clearly has more specific criteria than VAR-001-2. Elk Hills Power believes that with the proper assignment of responsibility, the reliability benefit will be significant.
It appears to Elk Hills Power that a lot of effort has been expended in this variance to avoid burdening a Transmission Operator who does not specify voltage set points required to maintain stability on their system. Since all GOPs are required to operate their AVRs in voltage control mode when available, we are not sure why TOP voltage set point-based schedules should not be required to be the norm as well. This variance seems to lock in old Reactive Power management methodologies which should be replaced anyways.