Unofficial Comment Form  
Project 2013-04 Voltage and Reactive Control (VAR) Revisions

Please DO NOT use this form for submitting comments. Please use the electronic form to submit comments on the draft VAR-001-4 and VAR-002-3 standards. The electronic comment form must be completed by 8:00 p.m. ET by November 25, 2013.

If you have questions please contact Soo Jin Kim via email or by telephone at 404-446-9742.

The project page may be accessed by clicking here.

Background Information
When the first versions of the VAR standards were approved in FERC Order No. 693, the Commission also issued FERC several directives with regard to how to improve the standard. Each of the outstanding directives are explained in detail in the technical white paper (see project page).

The informal consensus building for VAR began in February 2013. Specifically, the ad hoc group engaged stakeholders on how best to address the FERC directives, remove paragraph 81 candidates, and implement results-based approaches. A discussion of the ad hoc group’s consensus building and collaborative activities are also included in the technical white paper.

Project 2013-04 posted an initial draft for comment and ballot form July 19, 2013 to September 3, 2013. Although the VAR standards did not pass, the industry provided numerous helpful comments, and the standard drafting team made significant revisions based on the stakeholder input.

The proposed VAR-001 answers most of the FERC directives from Order No. 693, and the VAR-002 has been modified to address certain compliance issues today. Some directives are not being addressed at this time pending FERC determinations in related filings, but those directives may be revisited during a phase 2 of this project. This posting is now soliciting comment on the revised VAR-001 and VAR-002 standards.

You do not have to answer all questions. Enter comments in simple text format. Bullets, numbers, and special formatting will not be retained.

---

Question

1. Although FERC directed NERC to provide more details on “established limits,” the VAR standards development team determined that the FAC and TOP standards provide explicit requirements on voltage limits. Further, the definition of a System Operating Limit requires Voltage Stability Ratings (Applicable pre- and post-Contingency Voltage Stability) System Voltage Limits (Applicable pre- and post-Contingency Voltage Limits) to be included. Is it clear that the specifics with regard to voltage limits are to be determined and monitored as part of operating within System Operating Limits and Interconnection Reliability Operating Limits?

☐ Yes
☐ No

Comments: We support the direction being taken and the SDT’s decision to not reiterate or duplicate the voltage assessment requirements already addressed by the FAC and TOP standards.

2. Several requirements were removed because they duplicated other standards. Do you agree with this approach? Do you have any specific questions or comments relating to the requirements in the revised VAR-001-4?

☐ Yes
☐ No

Comments: We support the SDT’s proposal to remove the requirements that may be redundant with other standards.

However, regarding VAR-001-4 Requirement R1 was revised to read:

R1. Each Transmission Operator shall specify a system voltage schedule (which is either a range or a target value with an associated tolerance band) as part of its plan to operate within System Operating Limits and Interconnection Reliability Operating Limits

   1.1 Each Transmission Operator shall provide a copy of the voltage schedules and associated tolerance bands to its Reliability Coordinator and adjacent Transmission Operators within 30 calendar days of a request.

What is meant by “system voltage schedule.” Is it a high-level, overall voltage schedule by voltage class, or a voltage schedule by station (even if there is no direct means of controlling voltage at that station)? Requirement R5 already addresses specification of generator voltage schedules, so if that is what is intended to be addressed under R1, why is R1 needed at all? Requirement R5 states:
R5. Each Transmission Operator shall specify a voltage or Reactive Power schedule (which is either a range, or a target value with an associated tolerance band) at either the high voltage side or low voltage side of the Generator Step-Up transformer at the Transmission Operator’s discretion.

There is inconsistency in the tense used in various VSLs. Some are in present tense while others are in the past tense. This should be reviewed and and revised as appropriate.

“Schedule” is used in both VAR-001 Requirements R1 and R5. However, it is modified by different phrases in each, implying different types of “schedules.” These two different types of “schedules” have caused confusion, making the use and intended meaning less than perfectly clear.

VAR-001 Requirement R1 - To improve clarity and consistency, suggest that the word “schedule” be deleted here and only be used when referring to GOP operation. Suggest revising Requirement R1 wording as follows:

R1. Each Transmission Operator shall specify a system voltage range or a target value with an associated tolerance band as part of its plan to operate within System Operating Limits and Interconnection Reliability Operating Limits.

Note that Requirement R1 only requires that the TOP establish the target system voltage level and tolerance band. There is no mention of GOP operation.

Requirement R2 requires that the TOP schedule its arrangement of sufficient reactive resources, whether actually used (dispatched) or not, a Planning function (see Measure M2). The Rationale box states: “to ensuring sufficient reactive resources are online or scheduled.”

The use of the word “scheduled” here again has caused confusion. We suggest it be replaced to clarify the meaning, as follows:

R2. Each Transmission Operator shall make arrangements for sufficient on-line, available reactive resources to regulate voltage levels under normal and Contingency conditions. Transmission Operators can provide sufficient reactive resources through various means including, but not limited to, making arrangements for reactive generation resources, transmission line and reactive resource switching, and using controllable load.

Further recommend revising M2 to synchronize it with the revised Requirement R2 above, as follows:

M2. Each Transmission Operator shall have evidence of sufficient reactive resources based on their assessments of the system. For the operational planning time horizon, Transmission Operators...
shall provide copies of assessments used as the basis for determining how resources were made available.

Organizationally, R4 should be swapped with R5. A requirement dealing with exemptions should come after the “foundation” requirement.

The Drafting Team must consider the following regarding Hydro-Quebec TransEnergie. "Schedule" in the standard is confusing and does not apply to Hydro-Québec TransÉnergie. Hydro-Quebec TransEnergie does not issue a schedule of voltage or reactive power. Hydro-Quebec TransEnergie sets voltage ranges to comply at all times for the different voltage levels. During light or peak load, these operating situations are governed with voltage setpoints for specific substations. The standard should therefore consider (in addition to the preceding comments) the terms used. For example, consider substituting the term "voltage or reactive power setpoint " for the word “schedule” which does not reflect our operating procedures.

Regarding Requirement R5, NERC now requires a specified program voltage or reactive power be given to central planning and forecasting. This requirement is not applicable to Hydro-Québec TransÉnergie because there is no voltage or reactive power schedule, but rather the requirement that every generating facility of more than 10 MW have an automatic voltage regulation system. Hydro-Quebec TransEnergie also requires them to provide a specific power factor for each of those generating units.

3. VAR-002 was modified to remove several compliance issues, and in order to address burdensome notification requirements, the VAR-001 standard has been modified to allow each TOP to tailor notification requirements based on system/area needs. Do you agree with these revisions?

☐ Yes
☒ No

Comments: Suggest the following changes to more effectively convey the intents of Measure M3 and Requirement R6.

Suggest that Measure M3 be reworded to require demonstration of compliance rather than to require actions which should have been stipulated in the requirement. Specifically, we proposed the last part in Measure M3 be revised to:

“...therefore, if a status change lasts more than 15 minutes, the GOP shall provide evidence such as system log, electronic message or a transmittal letter that it notified its associated Transmission Operator within 30 minutes of when the change first occurred.”
Regarding R6, the wording “the Generator Owner shall ensure that transformer tap positions are changed according to the specifications provided by the Transmission Operator...” is not a direct action and may not be measurable. Suggest revising it to read:

“the Generator Owner shall implement the transformer tap positions according to the specifications provided by the Transmission Operator....”

We further propose that the SDT insert the evidence language into the first sentence of Measure M3 which asks for evidence that the Generator notified its associated Transmission Operator within 30 minutes of the change identified in Requirement R3.

Generators may be asked by their TOP to operate in other modes. Reword Requirement R1 as follows:

**R1.** The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (with its automatic voltage regulator (AVR) in service and controlling voltage) unless the Generator Operator 1) is exempted by the Transmission Operator, 2) is notified by the Transmission Operator to operate in a different viable operating mode (e.g., constant VAR output mode), or 3) has notified the Transmission Operator of one of the following:

The comments in Question 2 regarding Hydro-Quebec regarding the word "schedule" apply.

4. The VRFs/VSLs for VAR-002 were modified to remove arbitrary time requirements. Do you have any specific comments or questions about the new VSLs/VRFs?

Comments: We support the proposed VRFs and VSLs.