

Comment Form for Draft Three of Set Two of Phase III & IV Standards

Please use this form to submit comments on the Phase III & IV Drafting Team's third draft of the second set of Phase III & IV Standards. Comments must be submitted by **April 15, 2006**. You must submit the completed form by e-mailing it to sarcomm@nerc.com with the words "Phase III & IV Standard Comments" in the subject line. If you have questions, please contact Mark Ladrow at mark.ladrow@nerc.net or 609.452.8060.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
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NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 — Transmission Owners
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/> 2 — RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> MAPP	<input type="checkbox"/> 3 — Load-serving Entities
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/> 4 — Transmission-dependent Utilities
<input type="checkbox"/> RFC	<input type="checkbox"/> 5 — Electric Generators
<input type="checkbox"/> SERC	<input type="checkbox"/> 6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> SPP	<input type="checkbox"/> 7 — Large Electricity End Users
<input type="checkbox"/> WECC	<input type="checkbox"/> 8 — Small Electricity End Users
<input type="checkbox"/> NA — Not Applicable	<input type="checkbox"/> 9 — Federal, State, Provincial Regulatory or other Government Entities

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Background:

The Phase III & IV drafting team divided its Standards into two sets, and most of the standards have moved forward to balloting. The drafting team is posting VAR-001, VAR-002, and VAR-003 for another comment period to improve consensus on these standards.

VAR-001	Voltage and Reactive Control
VAR-002	Generator Operation for Maintaining Network Voltage Schedules
VAR-003	Assessment of Reactive Power Resources

VAR-001 and VAR-002 are companion standards – there are requirements in VAR-001 for Transmission Operators to perform certain tasks in conjunction with Generator Operators – and there are requirements in VAR-002 for Generator Operators to perform certain tasks in conjunction with Transmission Operators. VAR-001 is an already approved Version 0 Standard – and the requirements in VAR-001 that were assigned to the Generator Operator were moved into VAR-002.

The drafting team made changes to both VAR-001 and VAR-002 to better align the tasks with the entities that are responsible for those tasks and to ensure measures are applied such that entities should not need to invest in additional resources solely to make it easy to measure compliance. The drafting team also made other changes as suggested by stakeholders, to improve clarity of intent and to ensure that the measures and levels of non-compliance align with the modified requirements. To simplify the review process, the drafting team has posted both a clean version of each of the standards as well as a 'red line' to show the changes from the second posting. Here is a summary of the major changes made to the requirements in VAR-001 and VAR-002:

- Added the following requirement to VAR-001 to address concerns that wind generators be considered collectively as a 'plant' rather than as single 'units':

R3. The Transmission Operator shall identify aggregated generating units required to comply as a plant rather than as individual generators.

- Modified VAR-001 R5 as follows to clarify the intent that the TOP maintain communication with the Generator Operator and provide the Generator Operator with specific directives, if needed. (There is a corresponding requirement in VAR-002 that requires the Generator Operator to comply with the TOP's directives.)

R5. Each Transmission Operator shall specify a voltage or Reactive Power schedule to be maintained by each non-exempt generator. The Transmission Operator shall provide the voltage or Reactive Power schedule to the associated Generator Operator and direct the Generator Operator to comply with the schedule.

R5.1 If a Transmission Operator identifies a Generator Operator that is not following its assigned voltage or Reactive Power schedule, the Transmission Operator shall notify the Generator Operator that the schedule is not being met and shall obtain reasons for deviation from the schedule.

- Removed references to 'synchronous' generators. (VAR-001 and VAR-002)
- Removed the VAR-002 requirement to notify the TOP of instances of not adhering to the voltage schedule – this was not practical since the Generator Operator may not know that it is not complying with the schedule.
- Added a new Requirement 2.2 in VAR-002 to clarify that the Generator Operator is expected to comply with the TOP's directives relative to making changes in output:

R2.2 When directed to modify voltage output, the Generator Operator shall comply within 5 minutes or provide an explanation of why the schedule cannot be met.

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- Modified VAR-002 Requirement 3 to clarify the intent by adding the following language:

R3. Each Generator Operator shall notify its associated Transmission Operator **as soon as practical, but** within 30 minutes of any of the following:

R3.1 A status change on any generator Reactive Power resource, including the status of each automatic voltage regulator and power system stabilizer **and the expected duration of the change in status.**

R3.2 A status change on any other Reactive Power resources under the Generator Operator's control **and the expected duration of the change in status.**

- Modified the levels of non-compliance so that there are levels of non-compliance associated with a delay or failure to comply with a TOP's directive relative to making a change in generator output – and removed the levels of non-compliance that were associated with a number of hours of operating outside a voltage or reactive schedule. (Measuring compliance with the number of hours of operating outside a voltage or reactive schedule was not practical.)
- Modified the levels of non-compliance so that there are levels of non-compliance associated with a delay or failure to comply with a TOP's directive relative to making a change in generator output – and removed the levels of non-compliance that were associated with a number of hours of operating outside a voltage or reactive schedule. (Measuring compliance with the number of hours of operating outside a voltage or reactive schedule was not practical.)

The drafting team did not make any changes to the recommended dates for implementation of VAR-001 and VAR-002. The team recommends that entities have 6 months from the Board of Trustee adoption date to comply with the changed requirements in VAR-001. The drafting team recommends that entities have 6 months beyond the effective date of VAR-001 to become compliant with the requirements in VAR-002. Note that part of the implementation plan calls for the modification of one requirement in TOP-002 at the same time that VAR-002 becomes effective. The Implementation Plan can be reviewed with the standards in Set Two that are posted for pre-ballot review. TOP-002 has been re-posted for reference.

The drafting team is recommending the deletion of VAR-003 from the set of standards included in Phase III & IV. During the second posting of these standards, additional stakeholders submitted comments indicating that the requirements in VAR-003 - Assessment of Reactive Power Resources, duplicate requirements in the already implemented Version 0 (TPL-001 System Performance Under Normal Conditions, and TPL-002 System Performance Following Loss of a Single BES Element) standards.

Please consider your acceptance of the changes made to the standards as you respond to the following questions. Note that you are not required to answer all of the questions.

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Please Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree with the changes made in VAR-001 (Voltage and Reactive Control to require the Transmission Operator to notify the Generator Operator when the Transmission Operator notes that the Generator Operator is not meeting a voltage or reactive schedule?)

Yes

No

Comments: (i) Specific to R3 in VAR-001, it is unclear to us, as to what specifically it is that the aggregated generating units are required to comply with. We assume that it is the voltage or reactive power schedule that these aggregated generating units are required to comply with. If this assumption is correct, some of the R5 requirements should be either stipulated before R3 or R3 added as a sub-requirement of R5 as appropriate. Please clarify.

(ii) R3 as written may conflict with R5. The former requires that the aggregated generating units be required to comply as a plant rather than individual generators. The latter, however, requires that the TOP specify a voltage or reactive power schedule to be maintained by each non-exempt generator (rather than as a plant). The two requirements need to be consistent.

(iii) Measure M1 (for compliance with R5) may need to be revised according to any changes made in response to Comment (ii), above.

2. Please identify anything you believe needs to be modified before VAR-001 is balloted:

Comments: While the IESO recognizes that the scope of the standard drafting team (SDT) is limited to the Standard Authorization Request (SAR), it is nonetheless tasked with 3 key activities that we view as paramount, which we believe were not adequately executed during the last round of commenting. They are:

a) tasked to translate reliability requirements from the phase III and IV standards;

b) tasked to "resolve technical comments" as necessary to achieve consensus but not introduce new reliability requirements; and

c) tasked to develop the requirements and "measures" within these phase III and IV standards

In the context of the above tasks in particular b) and c) we offer the following:

(i) In our view, requirement R1, which requires development of formal policies and procedures for monitoring and control voltage level and MVAR flows, is one of the more critical requirements, to ensure system reliability related to voltage performance. Yet there are no measures to assess TOP's compliance with this requirement. We suggest that appropriate measures be developed for this requirement before this standard proceeds to balloting.

(ii) Specific to R7; while we recognize the significance of and the need for a TOP to know the status of power system stabilizers, we fail to understand this need from a voltage control perspective to which this standard is designed for. Please clarify or remove this from R7.

(iii) The term "acquire" in requirement R2 has the connotation a TOP is required to "PURCHASE" reactive resources. While, it is our view the obligation of the TOP is to "assure" sufficient reactive resources are available. This is accomplished through the appropriate planning of the system (TPL series of standards) and the operational planning processes (TOP-002). We suggest changing the requirement accordingly to read "assure sufficient reactive resources are available within its Area..."

(iv) R5; The use of the term "Schedule" seems to preclude the option of TOPs establishing and using pre-defined reactive power capability and AVR performance criterion for generator

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operators to adhere to. The IESO recommends the requirement be revised to read "Each Transmission Operator shall specify voltage or reactive schedules to be maintained by or reactive power capability/AVR performance criterion for each non-exempt generator or aggregated plant". Similar changes are required throughout VAR-001 and VAR-002.

(v) R8 and R9 appear to be relatively similar. Suggest combining.

(vi) R11; While we agree with the statement "IROL violations must be corrected within 30 minutes", we question the appropriateness of its inclusion in this standard rather than just referencing standard TOP-007? If it is to remain it should state "return its transmission system to within IROL as soon as possible, but not longer than 30 minutes" to be consistent with TOP-007.

Similarly, Requirement R13 while true is also addressed by TOP-007 R3.

3. Do you agree with the modifications to the levels of non-compliance in VAR-002 (Generator Operation for Maintaining Network Voltage Schedules)?

Yes

No

Comments: The Levels of non-compliance are defining new requirements by including times which are different than the standard. The non-compliance evaluation must only be performed on the standard. If 5 minutes were to stay in this standard (and I hope it does not) then there shall be only one non-compliance: is it level 1 or level 4?

Although the standard has six measures, non-compliance is not assessed on M1 or M3.

4. Please identify anything you believe needs to be modified before VAR-002 is balloted:

Comments: (i)Ref. our general Comment and comment (ii) on Question 2, above, if the requirement to report power system stabilizer status is removed from VAR-001, then R3.1 in VAR-002 would need to be revised accordingly.

(ii) Also reference Comment (iv) to Question 2, above.

(iii) R3.2 and 3.1 should be combined. This could be easily accomplished by removing the word "generator" from 3.1 and removing all of 3.2

(iv) One reactive element we do not see in this standard is the need to communicate any changes in reactive capability of a resource (its output may not change but auxillary equipment may restrict full capability).

(v) M3 measures the same thing as M2.

5. Do you agree with the stakeholders who recommended the deletion of VAR-003 (Assessment of Reactive Power Resources) because VAR-003 duplicates requirements in the already approved TPL-001 and TPL-002 standards?

Yes

No

Comments: We generally agree with the deletion of VAR-003. However, while the general intent of the requirements in VAR-003 is covered by TPL-001 and TPL-002, specific requirements are not fully duplicated in these two latter standards. We suggest that the specific VAR-003 requirements be put in a place-holder for consideration in future review of TPL-001 and TPL-002.

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6. Please provide any other comments on this set of standards (VAR-001, VAR-002, and VAR-003) that you haven't already provided.

Comments: (i) These Standards need to include not only voltage schedules and reactive power schedules but also include the voltage control mode which uses voltage ranges and not specific voltage schedules.

(ii) Remove words such as "sufficient"