

Individual or group. (51 Responses)
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Question 1 (46 Responses)
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Individual
Thomas E Washburn
FMPP
Yes
The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the Generator has notified the Transmission Operator. Why is "Operator" deleted? It now states the Generator has notified the TOP. A Generator is not an entity. How can a non-entity notify anyone?
Individual
Joesph Zerbo
Salt River Project
Yes
Yes
Yes
No
Individual
Frederick R Plett
Massachusetts Attorney General
Yes
The wording of the standard should be changed to say "under normal operating conditions", or "except during startup and shut down"
Yes
No
The request is for an interpretation. The standard ought to be made more explicit to say "except during startup and shutdown conditions", or "during normal operating conditions"
No
Group

Tennessee Valley Authority
David Thompson
Yes
Yes
No
During startup, the defining point for start-up and shut down should be at the point of dispatch, not the minimum load point. Point of dispatch is more appropriate than the minimum load point because some units are still in an unstable operating zone at minimum load point, and it may be hours or longer before being dispatched. The footnotes under section B, R1, should be changed to the following: Start-up is deemed to have ended when the unit is released for dispatch by the Generator Operator. Shutdown is deemed to begin when the unit is released from dispatch by the Transmission Operator.
No
Individual
Keira Kazmerski
Xcel Energy
No
Xcel Energy believes that, for the scope of the initial clarification request, the Rapid approach is appropriate. However, Xcel Energy also believes that the drafting team has gone beyond addressing the clarification request that was the basis for this revision by the inclusion of other changes. A change was made including a new, undefined term, "minimum load".
Yes
Yes
Yes
Xcel Energy would request that the VSL's be opened for revision as well. The measures are not clearly worded. A better definition of the % of deviation would be suggested, such as the % being from the target voltage or from the lower/upper limit allowed in the voltage schedule. Another clarification that would be of benefit is a time period allowed for the voltage to return to control following an upset. As currently written, the return could be interpreted as instantaneous, which is not feasible.
Individual
Dan Roethemeyer
Dynegy
No
I don't know that I understand the differences between the two options.
Yes
No
It would be simpler to make R1 read as ".....unless the GOP has either notified the TOP or is in the startup or shutdown mode." Delete the new proposed language.
No
Individual
Rich Salgo
NV Energy
Yes
This was a good solution to the discovery of an inadequacy in the language of the existing Standard.

and it was implemented in an efficient fashion.
Yes
Yes
No
Individual
Julie Lux
Westar Energy
Yes
Yes
No
Please clarify within the requirement that notification is not required with each start-up and shutdown if a procedure has been previously provided to the Transmission Operator. With the language "the Generator Operator has notified the Transmission Operator" before the bullets, it implies that notification is required with each start-up and shutdown.
No
Group
Pacificorp
Sandra Shaffer
Yes
Yes
Comment on Footnote 1: Footnote 1 currently reads "Start-up is deemed to have ended when the unit is ramped up to its minimum load and the unit is preparing for continuous operations." PacifiCorp strongly suggests that footnote 1 be re-written to read as follows: "Start-up is deemed to have ended when the unit is ramped up to its minimum stable load...." Revising the footnote in this way would remove the ambiguity around the meaning of the phrase "and the unit is preparing for continuous operations" which does not provide any additional clarity to the concept of "minimum load.". Adding the conceptclarification of "minimum stable load," however, defines a specific point in time that is likely to be differentvary among systems to system."preparing" be changed to "prepared". This change would clearly indicate that commissioning activities are performed as part of the start-up process and occurs as part of R1 exceptions to the current version of the standard. Comment on Severe VSL for R1: PacifiCorp does not believe that it is It is not appropriate that all violations of R1 should be treated as "severe" violations for at least two separate reasons: 1. A mere failure of the responsible entity to give notice to the Transmission Operator (by itself) should not defaultbe treated as to a severe violation on its own. Absent an actual reliability risk to the BES, a mere clerical error, a failure to timely report, or a failure to recorddocument the timely report, should never be raised to the level of a severe violation. Designating a clerical error for a single unit in an otherwise robust VAR-002 compliance regime to be a "severe" violation seems contrary to the current effort to focus limited industry and regulatory resources on elements of compliance that will make the most significant impact on the reliability of the BES. Violations that are of a minimal risk to reliability (such as De-minimus, clerical, and single unit errors) should be treated in the where the VSL table begins in the "Lower" category, with appropriate escalations towards "severe" as multiple units or habitual or willful non-compliance persistsis identified. This should particularly be the case as NERC moves to a compliance enforcement initiative, the Find, Fix, Track and Report mechanism, that permits no finding of penalty for lesser-risk violations related to documentation or administrative

errors. 2. Treating all violations as "severe" does not allow provide flexibility to NERC or the Regional Entities (REs) to for addressing actual severe violations that impact the reliability of the Bulk Electric System (BES), and nor does it fails to provide appropriate incentives/disincentives for either the registered entities with robust compliance programs or a compliance history with repeat violations conscientious complier or the habitual offender. The registered entity that habitually operates in manual mode or never reports an AVR or PSS outage should not be treated they by the RE same in the same manner as a conscientious operator who experiences an uncharacteristic reporting lapse (which tend to may occur in either the heat of the moment when while attention is rightfully diverted to fixing real actual system problems, or when the exercise is so routine and minor as to fail to catch an operator's attention). It takes multiple units operating in manual mode to negatively affect the reliability of the BES, and the VSL table should be modified to reflect higher potential sanctions against for repeat habitual offenders and/or those registered entities with without a no robust VAR-002 compliance program. An escalating VSL table will beserve as a better incentive for for all registered entities to develop a meaningful VAR-002 compliance regime. The same reasoning should be applied to the VSL's for R3.

Individual

Martin Kaufman

ExxonMobil Research and Engineering

No

NERC has already established an SDT to review and modify the VAR standards. By stepping outside the normal process for drafting standards, regardless of the intent or end product, NERC is setting a precedent for superseding a pre-qualified SDT and the ANSI approved process for drafting standards. For the time being, a Generator Operator's verbal notification to the Transmission Operator that a unit is being brought online or offline and is in manual control should be sufficient notification that its AVR is not in service.

Yes

No

Generator Operators do not provide a Transmission Operator with a startup or shutdown procedure. Startups and shutdowns are typically coordinated through an outage scheduling process which is akin to a simple notification and, in some cases, approval process. In the past, NERC has specifically stated that they would like to utilize standard requirements that provide a clear benefit to the bulk electric system. Outage scheduling and verbal notifications in conjunction with real time telemetry adequately communicate the state of a generator's operation to the Transmission Operator. Evidence of such coordination be sufficient to attend to the reliability concern addressed by Requirement R1 and demonstrate compliance with the inherrent requirement to coordinate generator startups and shutdowns as it relates to the operation of the generator's AVR.

No

Individual

Terri Pyle

Oklahoma Gas & Electric

Yes

Yes

No

The language in R1 should provide more clarity regarding the exceptions for operating a generating unit in automatic voltage control mode. The draft is still not as clear as it could be; therefore, the following language is suggested: R1. The Generator Operator shall operate each generator connected to the interconnected transmission system in automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless: • The unit is in start-up¹ or shutdown² mode and the Generator Operator has previously notified the Transmission Operator by providing a procedure that indicates the unit is operated in a mode other than automatic during start-up¹ or shutdown²; •

The Generator Operator has previously notified the Transmission Operator that the automatic voltage regulator cannot be operated in automatic control mode for a reason other than start-up¹ or shutdown²; or, • The Generator Operator has previously notified the Transmission Operator that the unit is not equipped with an automatic voltage regulator.

No

No additional comments on the SAR or proposed Standard.

Group

Imperial Irrigation District (IID)

Jesus Sammy Alcaraz

Yes

Yes

Yes

No

Individual

Michelle R. D'Antuono

Ingleside Cogeneration LP

Yes

We agree that the consistent identification of the points in the start-up and shutdown process would help clarify the intent and application of VAR-002 R1. Each Region seems to have its own concept of the appropriate time to engage the AVR in the automatic voltage control mode; which has led to inconsistent treatment by auditors. Some will assess a violation if the TOP is not notified of an AVR status change during every start-up and shutdown action – other Regions accept that the GOP will use generally acceptable business practices to engage the AVR at the correct time. In our view, this explains one of the reasons why the notification of a change in AVR status continues to be one of NERC's most violated requirements. This in of itself is important enough to justify a rapid revision of VAR-002, as it will carry much greater authority with auditors than an interpretation will.

Yes

No

We believe that there are two clarifications that the project team needs to add in order to ensure industry-wide consistency. First, there should be no ambiguity around the "minimum load" point where start-up ends (footnote 1) and shutdown begins (footnote 2). It seems to make sense to tie it to the value that must be validated during the generator capacity testing required under MOD-025-2. Even though that Standard is still under development (Project 2007-09), both the MOD-025-2 validated value and the VAR-002 minimum load point define where stable generator operations begin and end. Second, as obvious as it may seem, the project team should clarify the point where the generation unit is no longer "connected to the interconnected transmission system." We believe this is the point where the generator breaker is open, but other descriptions may be more technically accurate. Once a break-point has been decided, VAR-002 R1 should clearly indicate that a notification to the TOP of any kind is not necessary if the AVR is fully engaged and controlling voltage up through that time.

It should be a goal of every Interpretation Drafting Team to eliminate related Compliance Application Notices (CANs) wherever possible. In our view, CANs are not fully vetted by the industry to the extent required of a viable regulatory program. If too many CANs are in effect at any one time, it diminishes the legitimacy of NERC's compliance effort. In this case, CAN-0022 "VAR-002 R1 and R3 Generator AVR Operation in Alternative Mode" covers much of the same ground as this rapid revision. We see this as an excellent opportunity to set a helpful precedent for the interpretations process.

Individual

Michael Falvo

Independent Electricity System Operator
Yes
Yes
Yes
Yes
The proposed implementation plan conflicts with Ontario regulatory practice respecting the effective date of the standard. It is suggested that this conflict be removed by appending to the implementation plan wording, after "applicable regulatory approval" in the Effective Dates Section A5 of the draft standard and P. 1 of the Implementation Plan, to the following effect: ", or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities."
Group
Northeast Power Coordinating Council
Guy Zito
Yes
Yes
Yes
Yes
NERC has indicated that footnotes should not be used in a standard. Footnotes 1, 2, and 3 (not included as part of this proposed revision) should be removed. Footnotes 1 and 2 define start-up and shutdown. Neither term is defined in the NERC Glossary and the terms as used in this standard should be prefaced with "generator" to eliminate any confusion with the start-up or shutdown of a network or load. If generator start-up and generator shutdown are unique to this standard, then they can be defined in the wording of the requirement. If they are not unique to this standard, they must be included in the NERC Glossary. To support this "rapid revision", the process for including the terms in the NERC Glossary should be made to accommodate a "rapid revision". Footnote 3 is a technical explanation, and should not be included in this standard.
Group
Southwest Power Pool Regional Entity
Emily Pennel
Yes
Yes
Yes
Yes
This has been our practice in assessing compliance in that we ask for verification in the entities procedures that the GOP has communicated to the TOP those units that start up or shut down in manual mode. We view this procedure provided to the TOP in advance as the means of notification and further communication at each manual start up and shut down is not necessary.
Individual
RoLynda Shumpert
South Carolina Electric and Gas
Yes

Yes
Yes
No
Group
Arizona Public Service Company
Janet Smith
Yes
Yes
Yes
No
Group
Bonneville Power Administration
Chris Higgins
Yes
Yes
Yes
No
Individual
Joe Petaski
Manitoba Hydro
Yes
Yes
Yes
Yes
Yes
<p>-Will attestations or other documentation be required to demonstrate that generating units are not operated in start-up or shut-down mode? If so, this adds an unnecessary compliance burden. -The data retention requirements are too uncertain for two reasons. First, the requirement to “provide other evidence” if the evidence retention period specified is shorter than the time since the last audit introduces uncertainty because a responsible entity has no means of knowing if or when an audit may occur of the relevant standard. Secondly, it is unclear what ‘other evidence’, besides the specified logs, recordings and emails, an entity may be asked to provide to demonstrate it was compliant for the full time period since their last audit.</p>
Group
Texas RE
Don Jones

Yes
We don't believe there is any basis in the Standard for effectively answering this question through an interpretation.
Yes
Yes
We support the intent and direction of this revision, but we provide several suggestions and corrections that should be addressed. 1. When a unit is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown, the GOP should be required to provide the reason to the TOP as part of its notification. 2. We suggest deleting footnotes 1 and 2, which attempt to define "start-up" and "shut-down." There are differences in start-up and shut-down procedures and terminology in different regions and markets that make any attempt to globally define them problematic. These definitions are not needed here, and the details can be left to local practice, GOP procedures, and agreements between GOPs and TOPs. 3. In footnote 3, we suggest changing "this WILL lead to a change in the associated Facility Ratings" to "this MAY lead to a change in the associated Facility Ratings," because the reactive power capability may not be the most limiting factor considered in a Facility Rating methodology. 4. In Requirement R5, there appears to be a disconnect between the "Generator Owner's" obligations in the first paragraph, and the reference to "Generator Operator" in subrequirement R5.1. It appears that these references should refer to the same entity – which one is it supposed to be? The Measures will need to be revised to match the requirement. 5. The Data Retention provisions don't refer to the correct measures, and they should be corrected and updated as needed. (For example, M5 applies to GO but is not referenced in Data Retention.) Also, the reference to "Compliance Monitor" should be updated to "Compliance Enforcement Authority." 6. We understand that revisions to the VSLs may be considered outside of the scope of this project, but some of the VSLs are technically insufficient and need to be corrected. In particular, the 5-10-15% limits in the VSL for R2 are much too large for this technical context, and a high or severe VSL should apply for a much smaller voltage variation.
Group
Progress Energy
Jim Eckelkamp
Yes
We prefer the "rapid" approach if it provides clarification only and does not add any additional requirements. For example, the additional requirements have been added in Section R1 and M3.
Yes
Partially
Yes
Yes – partially. It is to be appreciated that Constellation's interpretation question was addressed at the time when the standard was being revised. However, at the same time, new stipulations were added in Requirements R1 and measures M3.
Yes
Section B: Requirement R1: Revise bullet points in requirement R1 as under: • That the unit is being operated in start-up ¹ or shutdown ² mode; or. • That the unit is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown. Revise definitions of startup and shutdown as: Note 1 Start-up is deemed to have ended when the unit is being ramped up for continuous operation. Note 2 Shutdown is deemed to begin when the unit is being ramped down and is preparing to go offline. Section B: Requirement R3: Revise requirement R3 as under: R3. For remotely started units with no onsite control room operator, transmission of information via SCADA is an acceptable form of conveying the AVR operating mode to the TOP. However, for all other generating units, each Generator Operator shall notify its associated Transmission Operator as soon as practical, but within 30 minutes of any of the following: [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations] Section C: Measures M3: Revise as under. Delete the sentence "If a generator is being started up or shut down with the automatic voltage control off and no notification to the Transmission Operator is made, the Generator Operator will have evidence that it notified the

Transmission Operator of its procedure for placing the unit into automatic voltage control mode. Such evidence must include, but is not limited to, dated evidence of transmittal of the procedure such as an electronic message or a transmittal letter with the procedure included or attached." Section D: Violation Risk Factors: Putting the criteria for different levels of violation risk factor in a matrix form is fine but do not revise existing penalties.

Individual

Greg Rowland

Duke Energy

Yes

Yes

No

• The revision to the standard did not go far enough to resolve the request for interpretation. Constellation sought clarification of R1 as to whether or not a communication must be conducted between a GOP and TOP during start-up or shutdown of a generator. We agree with the SDT's proposed change to R1 which provides for two different types of notification from the GOP to the TOP for situations when the unit is not being operated in automatic voltage control mode. However R3 still requires a 30 minute notification on status or capability changes. The following language from approved CAN-0022 allows GOPs to provide a blanket advance notification to the TOP in lieu of separate notifications for each change in status. "Advance Notification: In the event that a registered entity did not notify its TOP in every instance that it operated in a mode other than automatic, CEAs are to verify whether a registered entity opted to provide a blanket notification to its TOP regarding when it would be operating in a mode other than automatic voltage control mode. For example, a blanket notification could refer to the appropriate times during: 1) generator testing, 2) generator start-up, and 3) generator shut-down. If the registered entity acted on this option, the CEA is to verify that the registered entity's TOP received the blanket notification in lieu of separate notifications for each change in status." The Standard Drafting Team should revise R3 similarly to R1, to fully incorporate the provisions of CAN-0022 into the standard. The following phrase from R1 should be added at the beginning of R3: "Unless the Generator Operator has notified the Transmission Operator that the unit is being operated in start-up or shutdown mode pursuant to a procedure previously provided to the Transmission Operator," • For clarity, we also suggest adding the phrase "of AVR status is made" after the word "notification" in Measure M1, and delete the phrase "is made" after "Transmission Operator".

No

Individual

David Youngblood

Luminant

No

In this instance, Luminant believes that this should have been a simple interpretation by the SDT and not turned into a standard revision. An arbitrary call by individuals unaware of the impact to implement a "Rapid" approach could end up doing more harm to the BES than what was originally anticipated. Luminant also feels that if NERC wants to use the Rapid response for a standard revision, then that should be put forth to the industry for a ballot to ensure there are no major issues are being overlooked.

Yes

Yes

No

With respect to R1 VSL – The original standard had varying amounts of incidents (failure to notify the TO that the AVR is not in voltage control mode) and was replaced with one failed incident under the

Severe category. Varying amount of incidents should be placed in the VSL as follows: Level 2: More than one but less than 5 incidents of failing to notify the Transmission Operator; Level 3: More than 5 but less than 10 incidents of failing to notify the Transmission Operator; Level 4: Ten or more incidents of failing to notify the Transmission Operator. With respect to R3 VSL – The original standard had varying amounts of incidents (failure to notify status change in AVR/PSS/reactive power source within 30 minutes) and was replaced with one incident under High (R3.1 or R3.2) and Severe category (R3.1 and R3.2). Varying amount of incidents should be placed in the VSL as follows: Level 1: One incident of failing to notify the Transmission Operator; Level 2: More than one but less than 5 incidents of failing to notify the Transmission Operator; Level 3: More than 5 but less than 10 incidents of failing to notify the Transmission Operator; Level 4: Ten or more incidents of failing to notify the Transmission Operator.

Group

SPP Standards Review Group

Robert Rhodes

Yes

Yes

No

While we like the direction that the two bullet points in R1 have taken, we feel the language could be modified to make the exceptions clearer. We would propose the following language. R1. The Generator Operator shall operate each generator connected to the interconnected transmission system in automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless: • the Generator Operator has previously notified the Transmission Operator that the unit is being operated in start-up¹ or shutdown² mode pursuant to a procedure previously provided to the Transmission Operator; or, • the Generator Operator has previously notified the Transmission Operator that the automatic voltage regulator cannot be operated in automatic control mode for a reason other than start-up or shutdown, or the unit is not equipped with an automatic voltage regulator. Our intent is to provide an exception to operating the automatic voltage regulator in automatic mode when a unit is in the start-up/shutdown mode, or when the automatic voltage regulator may not be available for service, which does not require the Generator Operator to provide real time notification to the Transmission Operator. Given this and the proposed changes above, NERC should consider providing a similar exclusion for the Transmission Operator in VAR-001-2, R6.

No

None

Group

LG&E and KU Services

Brent Ingebrigtsen

Yes

Yes

Yes

LG&E and KU Services recommend the proposed additions to R1 also be applied to R2 using the following language: R2. Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power output (within applicable Facility Ratings³) as directed by the Transmission Operator unless the Generator Operator has notified the Transmission Operator of one of the following: [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations] • That the unit is being operated in start-up¹ or shutdown² mode pursuant to a procedure previously provided to the Transmission Operator; or. • That the unit is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown. R2.1. When a generator's automatic voltage regulator is out of service, the Generator Operator shall use an alternative method to control the generator voltage and reactive output to meet the voltage or

Reactive Power schedule directed by the Transmission Operator. R2.2. When directed to modify voltage, the Generator Operator shall comply or provide an explanation of why the schedule cannot be met.
Individual
David Thorne
Pepco Holdings
Yes
Yes
Yes
No
Individual
Edward
Davis
Yes
Yes
No
Entergy – believes the Transmission Operator should not be required to have, be required to update or maintain, nor be required to know the startup / shutdown procedures of all of the generators connected to its system. TOPs should not be required to dig through a procedure to find out if the AVR “should be” in manual or automatic mode during startup or shutdown. We also think it is not the best operation of the system for the TOP to “assume” the status of the AVR. All of the proposed changes, especially the provision of startup / shutdown procedures, places additional burdens on the TOP. These burdens also place unwritten requirements on the TOP which auditors will definitely “explore” during the next review, in any form, of the TOP. We view the requirement that the TOP receive the startup / shutdown procedures as placing new requirements on the TOP, in violation of the Interpretation process. Per Constellation in its Request for Interpretation “A generator operator already communicates to the TOP that the unit is being started up or shutting down.”. It would appear that a GOP could include in its procedures a requirement that the TOP be informed of the status of the AVR when the GOP is communicating to the TOP that the unit is starting up or shutting down. TOPs only want to know the status of a generating unit’s AVR, is it in automatic or manual mode. That information can be provided when the startup / shutdown information is being communicated. Therefore we recommend the following changes to VAR-002-2b: Delete both of the new bullet points added to R1, including associated footnotes. Delete: □ That the unit is being operated in start-up1 or shutdown2mode pursuant to a procedure previously provided to the Transmission Operator; or. • That the unit is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown. And: 1 Start-up is deemed to have ended when the unit is ramped up to its minimum load and the unit is preparing for continuous operation. 2 Shutdown is deemed to begin when the unit is ramped down to its minimum load and the unit is preparing to go offline. Also delete the new wording in M1: If a generator is being started up or shut down with the automatic voltage control off and no notification to the Transmission Operator is made, the Generator Operator will have evidence that it notified the Transmission Operator of its procedure for placing the unit into automatic voltage control mode. Such evidence must include, but is not limited to, dated evidence of transmittal of the procedure such as an electronic message or a transmittal letter with the procedure included or attached.
Group
Florida Municipal Power Agency

Frank Gaffney
No
Constellation is essentially asking "what does 'notify' mean as used in the standard", and asking if previously arranged operating procedures between the GOP and TOP is notification, including operating procedures for start-up and shutdown of a unit during which an AVR would be put into manual mode. An interpretation of what 'notify' means as used in the standard is more appropriate as opposed to changing the standard. The response to the request is too specific and introduces new terms into the standards that are ambiguous and will cause confusion depending on the type of generator being considered (e.g., start-up and shutdown), possibly spurring additional requests for interpretation of what start-up and shutdown mean for, say, a wind or solar farm, etc. In addition, while R1 has become clearer as to the intent, it leaves R3 unclear with the same question concerning the word 'notify'. An interpretation essentially saying that pre-arranged, mutually agreed upon operating procedures or similar documentation of pre-arranged, conditional notification, between the GOP and TOP acts as notification in regards to both R1 and R3 is a preferable approach to a rapid revision (e.g., every time the unit is on outage, the AVR is out of service; every time the unit is below XX MW of output, the AVR is in manual mode, etc.).
Yes
No
Please see comments to Question 1
Individual
Scott Berry
Indiana Municipal Power Agency
No
IMPA still likes the "Rapid" approach with some additional changes, such as having a SDT made up of six to eight members and with the focus of just performing the work to clarify the requirement within the standard that the request for interpretation is addressing.
no comment
No
IMPA believes that the SDT has introduced more ambiguity to the requirement by trying to define start up and shut down to cover all the generating units in the fleet under all operating conditions. In addition, a generating unit may be at its minimum load when going into shutdown which does not require any ramping down to minimum load (this condition does not meet the definition of shutdown per footnote 2).
Yes
IMPA believes the requirements for VAR-002 are very good and that the request by Constellation should have really been handled through the interpretation process. This was not a good request for the "Rapid" approach. An interpretation could have been used to clarify that an entity can use advance notice or a standing procedure with the TOP in order to give proper notice of the voltage regulator in manual during startup or shutdown. If requested by the TOP or if even needed, the GOP should be given the flexibility to define the startup or shutdown period for its generating units.
Group
FirstEnergy
Sam Ciccone
Yes
We believe that the rapid revision approach is appropriate for this change. Furthermore, we believe that NERC should take advantage of this opportunity to expand the revisions slightly to address all the issues presented in CAN-0022 so that the CAN can be subsequently retired. Please see our comments and suggestions in Questions 2, 3, and 4.
No
Pursuant to our suggested changes to the standard as shown in our comments to question 3, the SAR should be clear with respect to clarifying the intent of Requirement R1 and R3. We also suggest that

testing should be added in addition to start-up and shut-down in R1 of the standard thus eliminating the need for CAN-0022.

No

We believe the wording is on the right track to clarifying the requirement. However, we believe that there needs to be more clarification with regard to the tie between Requirement R1 and R3. It should be clear that R1 is allowing an exception during start-up, shut-down, or testing, while R3 should be related to a generator unit status or capability change when the unit is already connected to the bulk electric system. Therefore, we suggest the following wording for R1 and R3 along with their respective measures: R1. The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the Generator Operator has notified the Transmission Operator that the unit is being operated in start-up¹, shutdown² or testing mode pursuant to a real-time communication to the Transmission Operator or a procedure previously provided to the Transmission Operator. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations] M1. The Generator Operator shall have evidence to show that it notified its associated Transmission Operator any time it failed to operate a generator in the automatic voltage control mode as specified in Requirement 1. If a generator is being started up, shut down, or tested with the automatic voltage control off and no notification to the Transmission Operator is made, the Generator Operator will have evidence that it notified the Transmission Operator of its procedure for placing the unit into automatic voltage control mode. Such evidence must include, but is not limited to, dated evidence of transmittal of the procedure such as an electronic message or a transmittal letter with the procedure included or attached. R3. Each Generator Operator shall notify its associated Transmission Operator as soon as practical, but within 30 minutes of any of the following: [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations] R3.1. A status or capability change (other than start-up, shut-down, or testing) 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 or capability. R3.2. A status or capability change (other than start-up, shut-down, or testing) on any other Reactive Power resources under the Generator Operator's control and the expected duration of the change in status or capability. M4. The Generator Operator shall have evidence it notified its associated Transmission Operator within 30 minutes of any of the changes (other than start-up, shut-down, or testing) identified in Requirement 3.

Yes

We believe that the proposed implementation plan does not afford entities adequate time to develop any required procedures pursuant to Requirement R1. We suggest the implementation plan effective date be "The first day of the 2nd calendar quarter after applicable regulatory approval".

Individual

Brian J Murphy

NextEra Energy. Inc.

No

On the February 16, 2012 Standards Committee's call, it was generally agreed that Rapid Revision procedure was still in the pilot phase and that it should only be used for minor revisions to a Reliability Standard. The revisions proposed changes create a new category of pre-notification via the use of procedures and attempts to clarify when notification is required. Neither of these revisions appears to be minor. Also, the proposed clarifications appear to be beyond the plain language of the Reliability Standard, and, therefore, are not appropriate for consideration as an interpretation. Thus, it is suggested that a new SAR be drafted, and that the issues raised by Constellation be assigned to a Standards Drafting Team, so that the issues raised can be considered by a diverse group of technical experts, and that a revision to VAR-002 can be processed consistent with the Standards Process Manual.

No

It is unclear that the SAR represents the issues raised in the interpretation, because it appears that one of the concerns was regional consistency, and it is not clear that the proposed language adequately provides for a uniform approach, particularly when notice is provided outside the context of start-up or shutdown.

Individual
Thad Ness
American Electric Power
Yes
In general, we have no objections to using the Rapid approach as long as industry's comments and concerns are vetted and acknowledged in no less way than they would be in any other process. That being said, this appears to be the third interpretation request in circulation regarding these requirements, so perhaps more clarity is needed within the language of the standard itself.
No
It does not appear that the revisions to R1 fully address the concerns of the requestor. The response actually complicates rather than clarifies VAR-002. In addition, the first bullet point added to R1 is covered by other standards. Using only the second bullet along with its footnote, and removing the first bullet, would be a more appropriate change. The proposed changes in the first bullet point to requirement 1 provide no additional benefit either in terms of clarity or by increasing the reliability of the BES. In addition, these revisions assume that an entity actually needs to be notified of such procedures. Requirements which presuppose the needs or wants of an entity are to be avoided and would be a source of confusion.
Yes
While we do not completely disagree with the proposed changes, the revisions beg the question if R1 is even necessary given the content of R2? Perhaps the best way to provide the clarity being sought is to remove R1 entirely and simply retain R2. How about simply stating that an entity shall operate in the agreed-upon mode unless GOP notifies the TOP otherwise?
Group
Dominion
Mike Garton
Yes
Yes
No
Per the Interpretation Request, Constellation is seeking clarification of Requirement R1 as to whether or not a communication must be conducted between a GOP and a TOP during start up or shut down of a generator, when the unit is not stable and is not counted upon for real or reactive power by the BA and TOP at that time. The existing language in Requirement R1 states: "The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the Generator Operator has notified the Transmission Operator." Dominion believes the existing standard language is clear and covers any situation when the generators automatic voltage regulator is not in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage). Dominion submits that the definition of start-up and shutdown (Footnotes 1 and 2 respectively) is unnecessary and inappropriate. Therefore, Dominion suggests retaining the existing language in Requirement 1 and Measure 1.
Yes
If the language proposed in the Project is adopted, then Dominion suggests in the bullets added under R1, M1, and in footnotes 1 and 2; that the word 'unit' be replaced with 'generator', for consistency, as generator is already used in the Standard.
Individual
Patrick Brown
Essential Power, LLC
Yes

Yes
Yes
No
Individual
Michael Moltane
ITC
Yes
Yes
Yes
Individual
Terry Harbour
MidAmerican Energy
Yes
Yes
No
MidAmerican has reviewed the Background and Drafting Team Considerations and has concerns of the proposed Project 2011-INT-02. As stated in the Drafting team considerations; "The drafting team has summarized this request as a clarification of a communications protocol as it relates to compliance and not to address any technical issues with respect to assumptions regarding the AVR status during start up and shut down mode". By stating (and it will be viewed by the industry as defining) what "start up and shut down" is, the SDT is expanding the technical issues that they have stated they would not do. The drafting team should not attempt to define, start up, shut down, ramp up, or ramp down or place those words within a Requirement. (Note that within the PJM market, ramp is something that is associated with a schedule where by a GOP may not "ramp up" until five minutes before top of the hour but could be on line producing real and reactive power. The use of "ramp" within foot note 1 and 2 is ambiguous and will cause confusion.) There are too many different generator designs for the SDT to capture all possibilities by simply adding the proposed foot notes and bullets. In addition, whenever a foot note is used to clarify a Requirement, the Requirement becomes more ambiguous. Recommend that foot note 1 and 2 be deleted since they only provide examples to a certain type of generator. The SDT needs to write the Requirement whereby it can be universally used by all applicable entities. The SDT further states, "The drafting team believes it is up to the Generator Operator to formally notify the Transmission Operator of its procedures for placing the unit into automatic voltage control mode". MidAmerican agrees with the SDT. NERC requirements should allow GOPs (industry experts) to appropriately document exemptions and design conditions where units take automatic actions to switch modes and provide those in advance to the Transmission Operator. NERC has allowed stakeholders the authority to design their own programs based on their asset characteristics as in FAC-008, CIP-002, EOP-001, etc. The SDT should allow each applicable entity within this Standard the same authority. MidAmerican recommends R1 be left as is and not be changed to incorporate the "interpretation". R1 is already well written to assure that Generator Operators operate each generator connected to the interconnected transmission system in automatic voltage control mode (unless exempt by R2). MidAmerican recommends that R3 is clearly suited for incorporation of the requested interpretation. R3.1 is written to capture "...status or capacity changes on any generator...", such as when a generator is not in the desired voltage response mode. MidAmerican recommends R3 to be rewritten to capture the intent of the interpretation to read: R3.

Each Generator Operator shall notify its associated Transmission Operator as soon as practical, but within 30 minutes unless advanced notification, including but not limited to operating guidelines documenting expected status and capability changes, has been provided for any of the following: The noted "advance notification" will allow GOPs to establish an individual process for each generators that do not comply with R1 or fall within scope of R2. This will also allow GOPs and TOPs on how this advance warning is to be provided. It may be via written procedure, a mutually agreed SCADA point, etc.

Yes

Delete the words "and the expected duration" to R3.1 and 3.2. Since this is a revision to the standard, the drafting team should consider deletions as wells as additions. MidAmerican contends that the words "and the expected duration" provide no practical Bulk Electric System reliability benefit and should be removed. Delete all added material to M1 or have M1 match revised wording in R1. Revise any VRFs or VSLs appropriately.

Individual

Kirit Shah

Ameren

Yes

Yes

Yes

We agree that the proposed revision addresses the issue raised for VAR-002, R1 interpretation.

Yes

As stated above, we agree that the proposed revision addresses the issue raised for VAR-002, R1 interpretation. However, we suggest SDT to review how the proposed revision would impact VAR-001, R6. In particular, our concern is with regard to the first bullet in the proposed revision. The issue is while the GOP is required to provide the start-up and shutdown procedure, we believe that it would not be enough for the TOP to meet VAR-001-2, R6. This requirement is: R6. The Transmission Operator shall know the status of all transmission Reactive Power resources, including the status of voltage regulators and power system stabilizers. R6.1. When notified of the loss of an automatic voltage regulator control, the Transmission Operator shall direct the Generator Operator to maintain or change either its voltage schedule or its Reactive Power schedule. Our concern is, to meet the above requirement, now TOP has to keep track of all generating units which is in a start-up and/or shut down mode, keep monitoring units' dispatch level, and when the unit reaches this pre-defined dispatch level (provided in the GOP procedure in advance) then assume that the status of AVR will change and provide a directive to the GOP. If our concern is not valid, please address it and clarify it in the next round of the revision. Assuming that our concern is valid, we suggest the following changes to the proposed draft: R1. The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the Generator Operator has notified the Transmission Operator. of one of the following: [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations] • That the unit is being operated in start-up¹ or shutdown² mode pursuant to a procedure previously provided to the Transmission Operator; or. • That the unit is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown, or • That the unit is being operated in start-up or shut down mode with automatic voltage control mode contrary to the procedure previously provided to the Transmission Operator. 1 Start-up is deemed to have ended when the unit is ramped up to its minimum load (specified in the GOP procedure) and the unit is preparing for continuous operation. 2 Shutdown is deemed to begin when the unit is ramped down to its minimum load (specified in the GOP procedure) and the unit is preparing to go offline.

Individual

Brad Jones

EFH Luminant Energy

No

In this instance, Luminant believes that this should have been a simple interpretation by the SDT and

not turned into a standard revision. An arbitrary call by individuals unaware of the impact to implement a "Rapid" approach could end up doing more harm to the BES than what was originally anticipated. Luminant also feels that if NERC wants to use the Rapid response for a standard revision, then that should be put forth to the industry for a ballot to ensure there are no major issues are being overlooked.

Yes

Yes

Yes

R1 VSL – The original standard had varying amounts of incidents (failure to notify the TO that the AVR is not in voltage control mode) and was replaced with one failed incident under the Severe category. Varying amount of incidents should be placed in the VSL as follows: Level 2: More than one but less than 5 incidents of failing to notify the Transmission Operator; Level 3: More than 5 but less than 10 incidents of failing to notify the Transmission Operator; Level 4: Ten or more incidents of failing to notify the Transmission Operator. R3 VSL – The original standard had varying amounts of incidents (failure to notify status change in AVR/PSS/reactive power source within 30 minutes) and was replaced with one incident under High (R3.1 or R3.2) and Severe category (R3.1 and R3.2). Varying amount of incidents should be placed in the VSL as follows: Level 1: One incident of failing to notify the Transmission Operator; Level 2: More than one but less than 5 incidents of failing to notify the Transmission Operator; Level 3: More than 5 but less than 10 incidents of failing to notify the Transmission Operator; Level 4: Ten or more incidents of failing to notify the Transmission Operator.

Individual

Daniel Duff

Liberty Electric Power LLC

Yes

No

The use of the footnoted terms to define start-up and shutdown has the potential to create more compliance issues than are solved by the revision. Suggest removing the footnotes, remove the bullet points in R1 and change to read as follows: The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the generator is starting up or shutting down; or the Generator Operator has notified the Transmission Operator that the unit is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown. This formulation eliminates the confusion which will be caused when different auditors interpret "minimum load" and "preparing". Further, it eliminates records retention issues surrounding the data needed from each start-up or shutdown event for proof of compliance.

No

Individual

Andrew Z. Pusztai

American Transmission Company

No

An interpretation would allow a thorough vetting of the issue at hand, rather than opening up the entire Standard to revision.

Yes

No

The issue raised by the RFI is an inconsistent application of the Standard across the regions. The Rapid Revision expands the Standard by offering specific language to deal with a specific exception, rather than set the stage for consistency. The other issue is a perceived necessity for a Generator

Operator to take the additional action of notification to the TOP to mitigate a symptom of the first issue. When a broader view of the Standards is taken, it can be argued that the existing language in VAR-002-2b R1, and R2 captures the possibility of an exception with the provision for exemption. This situation does not relieve the Transmission Operator from obligations to VAR-001-2 R6, "The Transmission Operator shall know the status of all transmission Reactive Power resources, including the status of voltage regulators and power system stabilizers." If an interpretation is to be made regarding Generators with design concerns, a reference to Attachment 1-TOP-005 1.2.4 of TOP-005-2a should be made. This data would give the necessary means to the TOP with which to be compliant with VAR-001-2 R6, facilitate Contingency Analysis in Real-Time, and provide a vehicle enabling Generator Operators to convey status of AVR without a phone call. The potential for any Generator lacking ability to provide AVR status data, or having any other extenuating circumstances regarding communication of status, may be handled through the exemption provisions as noted in VAR-002-1.1b R2 between the TOP and the GOP, or "unless otherwise agreed to by the Balancing Authorities and Transmission Operators with immediate responsibility for operational reliability." as stated in TOP-005-2a R2.

Yes

Constellation asked for an interpretation for consistent application of the Standard by the regions. The "Rapid Revision" and the scope of the changes went beyond what was originally raised in the RFI and actually changed the Standard. As stated in the Drafting Team Considerations; "The drafting team has summarized this request as a clarification of a communications protocol as it relates to compliance and not to address any technical issues with respect to assumptions regarding the AVR status during start up and shut down mode". (an example of how it changed the Standard) By stating (and it will be viewed by the industry as defining) what "start up and shut down" is in footnotes 1 and 2 below, the SDT is expanding the technical issues that they have stated they would not do. The drafting team should not attempt to define, start up, shut down, ramp up, or ramp down or place those words within a Requirement. Footnote 1 - Start-up is deemed to have ended when the unit is ramped up to its minimum load and the unit is preparing for continuous operation. Footnote 2 - Shutdown is deemed to begin when the unit is ramped down to its minimum load and the unit is preparing to go offline.

Group

Kansas City Power & Light

Michael Gammon

Yes

Yes

No

While we like the direction that the two bullet points in R1 have taken, we feel the language could be modified to make the exceptions clearer. We would propose the following language. R1. The Generator Operator shall operate each generator connected to the interconnected transmission system in automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless: • the Generator Operator has previously notified the Transmission Operator that the unit is being operated in start-up¹ or shutdown² mode pursuant to a procedure previously provided to the Transmission Operator; or, • the Generator Operator has previously notified the Transmission Operator that the automatic voltage regulator cannot be operated in automatic control mode for a reason other than start-up or shutdown, or the unit is not equipped with an automatic voltage regulator. Our intent is to provide an exception to operating the automatic voltage regulator in automatic mode when a unit is in the start-up/shutdown mode, or when the automatic voltage regulator may not be available for service, which does not require the Generator Operator to provide real time notification to the Transmission Operator. Given this and the proposed changes above, NERC should consider providing a similar exclusion for the Transmission Operator in VAR-001-2, R6.

M1 is in need of modification to clearly state that a generator that has the AVR in any other mode other than automatic as a routine process of shutting down or starting up a generator, a submission of the procedure stating such is sufficient and no other notification by the generator is required. Recommend the following for clarity to replace the current M1 description: If a generator is being started up or shut down with the automatic voltage control off, the Generator Operator must provide

evidence that the generator either notified the Transmission Operator each time the generator was started up or shut down of the AVR status, or the Generator Operator will have evidence it provided the generators procedure for placing the unit into automatic voltage control mode during start-up and placing the automatic voltage control mode to off during shutdown to the Transmission Operator. Such evidence must include, but is not limited to, dated evidence of transmittal of the procedure such as an electronic message or a transmittal letter with the procedure included or attached. In any other operating condition, the generator shall provide evidence it notified its associated Transmission Operator any time the generator failed to operate a generator in the automatic voltage control mode as specified in Requirement 1.

Individual

Anthony Jablonski

ReliabilityFirst

Yes

Yes

No

ReliabilityFirst abstains on this ballot and offers the following comments for consideration: 1. ReliabilityFirst fundamentally agrees that the included bullets somewhat resolve the issue raised in the interpretation request, though believes the first bullet is missing one key component. ReliabilityFirst believes the GOPs procedure for start-up/shutdown not only needs to be provided to the TOP but needs to be accepted by the corresponding TOP as well. ReliabilityFirst recommends the following language for consideration: "That the unit is being operated in start-up or shutdown mode pursuant to a procedure previously provided to and accepted by the Transmission Operator; or."

Individual

James R. Keller

We Energies

No

We strongly disagree with this approach and believe it does not properly address the concerns which prompted the request for an Interpretation. A clear and useful Interpretation would serve the industry better than a vague "rapid revision" of this standard.

Yes

No

It is well known that compliance with this standard has been an issue in the industry. If the standard is opened up for revision, the entire standard should be reviewed, not just Requirement 1. The SDT definitions added for "start-up" and "shutdown" is neither clear nor helpful. The Generator Owner/Operators can best determine when a unit is stable in startup or shutdown mode. The SDT should obtain input from the industry with respect to when a unit is stable to put an AVR in automatic. There needs to be full industry input on any revisions to this standard.

No

The revisions to the standard do not adequately address the industry concerns in the Interpretation request. The SDT did recognize that there are sound reasons for some generators to be operated in the manual AVR mode during startup or shutdown, and the standard should allow for this. The standard and its bullets added to R1 provide the flexibility needed in the operation of turbine-generator AVR's to ensure stability of the unit and overall system reliability. However, the definitions added for "start-up" and "shutdown" is neither clear nor helpful. The Generator Owner/Operators can best determine when a unit is stable in startup or shutdown mode. The SDT should obtain input from the industry with respect to when a unit is stable to put an AVR in automatic. The standard does need definitions for these terms, which may vary from unit to unit. We Energies recommend Requirement 1, bullet footnotes 1 and 2, define minimum load as 20 Megawatts when starting or stopping a unit. Also, there is a need to clearly address the requirements for wind farms, which need flexibility in the operating mode due to the generator AVR technology, generator size and intermittent nature. We

believe that an Interpretation which addresses the concerns of the requestors is more appropriate. The proposed revision does not help clarify the significant issues in the existing standard. There needs to be flexibility for the GO to operate in Manual voltage regulation during the important phases of start-up and shutdown. The need for notification between the GO and the TO about AVR operation during these short times should be minimized or better, eliminated.

Group

We Energies

Howard Rulf

No

We strongly disagree with this approach and believe it does not properly address the concerns which prompted the request for an Interpretation. A clear and useful Interpretation would serve the industry better than a vague "rapid revision" of this standard.

Yes

No

It is well known that compliance with this standard has been an issue in the industry. If the standard is opened up for revision, the entire standard should be reviewed, not just Requirement 1. The SDT definitions added for "start-up" and "shutdown" is neither clear nor helpful. The Generator Owner/Operators can best determine when a unit is stable in startup or shutdown mode. The SDT should obtain input from the industry with respect to when a unit is stable to put an AVR in automatic. There needs to be full industry input on any revisions to this standard.

Yes

The revisions to the standard do not adequately address the industry concerns in the Interpretation request. The SDT did recognize that there are sound reasons for some generators to be operated in the manual AVR mode during startup or shutdown, and the standard should allow for this. The standard and its bullets added to R1 provide the flexibility needed in the operation of turbine-generator AVR's to ensure stability of the unit and overall system reliability. However, the definitions added for "start-up" and "shutdown" is neither clear nor helpful. The Generator Owner/Operators can best determine when a unit is stable in startup or shutdown mode. The SDT should obtain input from the industry with respect to when a unit is stable to put an AVR in automatic. The standard does need definitions for these terms, which may vary from unit to unit. We Energies recommend Requirement 1, bullet footnotes 1 and 2, define minimum load as 20 Megawatts when starting or stopping a unit. Also, there is a need to clearly address the requirements for wind farms, which need flexibility in the operating mode due to the generator AVR technology, generator size and intermittent nature.

Individual

John Bee on Behalf of the Exelon Companies

Exelon

No

Exelon/Constellation recognizes and supports the effort to more "rapidly" resolve less controversial issues with a standard revision. However, Exelon/Constellation does not believe that the "rapid" approach to clarify the standard is the proper way to address this interpretation request for two reasons – the role of an interpretation versus a standard revision and the analysis to judge this issue as qualified for a rapid revision. The role of an interpretation versus a standard revision: An interpretation fulfils a different function than a standard revision. In this case, the interpretation request targeted VAR-002-1.1b Requirement 1 to address a narrow concern with the standard language that created auditing inconsistency across regions. Constellation felt that an interpretation to clarify the intent behind the language would more clearly reflect current reliable operational practices within the industry and aid in compliance clarity. Following development of the interpretation request, Constellation reviewed all the requirements in the standard language and considered developing a SAR to address the many issues that exist within the current standard language, others more urgent than that of R1. Revision to VAR-002-1.1b Requirement 2 is urgently needed as well as to the companion language in VAR-001-2 Requirement 4. Clearly a standard revision project is needed for VAR-001 and VAR-002, but the "rapid" approach is limited to only the issue raised in the interpretation request. Exelon/Constellation still believes that the concerns with VAR-001-2 R2 and VAR-002-1.1b R2 warrant a revision project. VAR-002-1.1b Requirement 2 states

that each GOP shall maintain the generator voltage or Reactive Power output as directed, and Measure 2 further clarifies this requirement stating that a GOP shall have evidence to show it controlled its generator voltage or Reactive Power output to meet the voltage or Reactive Power schedule provided by the TOP. However, in certain situations, a GOP may not be able to meet the schedule because of system variations outside of the GOP's control. In this situation, a GOP may be non-compliant with this requirement because of issues out of its control. This requirement should be revised to allow the GOP to contact the TOP when outside the schedule to follow the TOP's instruction. VAR-001-2 Requirement 4 is closely tied to VAR-002-1.1b Requirement 2. It states that each TOP shall specify a voltage or Reactive Power schedule at the interconnection point between the generator facility and the TO's facilities. However, some GOPs do not have metering capability at the point of interconnection and are not mandated to do so. Therefore, a TOP must give instruction to GOPs who potentially have no way of proving compliance with the instruction. This requirement should change to allow the TOP to give instruction to the GOP based on an agreed upon point, regardless of the interconnection point. Analysis to judge this issue as qualified for a rapid revision: The front end assessment of the issues was insufficient to identify the technical complexities underlying VAR-002-1.1b R1. Constellation requested that Requirement 1 be interpreted to clarify the expectation and communication of having an automatic voltage regulator in manual (or automatic) during the start up and shut down sequences of a generating unit. While greater clarity is needed regarding the obligations around such events as it concerns notification to interconnected parties, the technical aspects associated with the operational practice warrant sufficient latitude within the standard language. Starting up and shutting down a unit is dependent upon many variables such as the type of unit, the fuel used, and the unit specific operating procedures, to name a few, and means different things to different players in the connected system. Defining the terms "start up" and "shut down" was not part of the request and creates more confusion than it resolves. The proposed definitions in the footnotes are unclear and vague. The VAR-002-1.1b R1 language may not need to be revised if an interpretation properly clarifies the compliance obligation at start up and shut down. If a generator has to start up and shut down in manual mode, it should be compliant to do so under the current R1 requirement. For example, a blanket notification that certain generators start up and shut down in manual mode should be sufficient to comply with the communication of the situation. Pursuing the rapid revision of VAR-002-1.1b R1 without understanding the technical complexities behind R1 or addressing the issues in VAR-002-1.1b R2 and VAR-001-2 R4 creates a risk that a series of revisions will be needed rather than conducting a coherent standard revision project. Every iteration of a standard imposes cost and compliance risk to entities. It is unclear what criteria are used to judge an issue to determine its qualification for rapid revision. Further, it is unclear who makes the judgments. Enabling stakeholders to better understand the process may make for a more effective deployment of this expedited revision process. However, for this VAR-002 interpretation request, Exelon/Constellation requests that work cease on this "rapid" approach and an interpretation of VAR-002-1.1b be submitted for industry review, with industry input in the development process.

Yes

The SAR language closely matches the interpretation request. However, as stated in response to Question 1, Exelon/Constellation feels that an interpretation on this issue raised is more appropriate than a rapid revision. There are larger concerns with VAR-002-1.1b as well as VAR-001-2 that need to be addressed. The scope of the SAR was limited to an interpretation request of a single requirement. The "rapid" process in developing the SAR did not include industry expertise which would have directed focus to these issues. Exelon/Constellation requests that work cease on this "rapid" approach and an interpretation of VAR-002-1.1b be submitted for industry review, with industry input in the development process.

No

Exelon/Constellation does not believe that the proposed revision resolves the issue raised in the interpretation request. Constellation requested that Requirement 1 be interpreted to clarify the expectation and communication of having an automatic voltage regulator in manual (or automatic) during the start up and shut down sequences of a generating unit. Defining the terms "start up" and "shut down" was not part of the request and created more confusion than it resolves. The proposed definitions in the footnotes are unclear and vague. Footnote 1 attempts to define start up of a unit. However, there are several issues with this definition. First, the term "ramped up" is a qualifier that is not needed. Secondly, the term "minimum load" is too vague. The minimum load in a generator user manual may be different than the minimum load defined in a start up procedure. Lastly, the language

stating "the unit is preparing for continuous operation" does not match any generator operator language and is unclear. The operator is the one who would prepare for continuous operation, not "the unit." The operator prepares for continuous operation long before reaching synch speed, so per Footnote 1, start up would end when the call is made to start up the unit. Footnote 2 attempts to define shut down of a unit. However, the definition used is only one of numerous ways a unit may be brought offline. Every unit has a unique sequence in which it is shut down. Therefore, Footnote 2 is too prescriptive. R.1 has been revised to state "pursuant to a procedure previously provided to the Transmission Operator." The SDT has not considered that there are other forms of communication that could be utilized to meet the requirement R1. For example, a formal letter of understand between the GO and the TOP rather than having a procedure to satisfy the requirement. R.1 and the associated M.1 imply that this requirement is only applicable to the automatic voltage regulator. The SDT has not addressed "startup" and "shutdown" provisions for other reactive power resources (e.g. power system stabilizers). M.1 currently states "and no notification to the Transmission Operator is made" gives the impression that this applies to all notifications to the Transmission Operator related to unit "startup" or "shutdown". This is ambiguous and needs to be clear that that the notification is related only to the status of the reactive resource (e.g., automatic voltage regulator). Exelon/Constellation maintains that this "rapid" revision should cease and an interpretation to VAR-002-1.1b be developed.

Yes

To reiterate, a standard revision is not preferable to an interpretation on VAR-002-1.1b R1. However, a standard revision project is much needed for VAR-001-2 R4 and VAR-002-1.1b R2. The Constellation interpretation request should be reconsidered, this rapid revision project should be remanded and a new project should be created to revise VAR-001-2 R4 and VAR-002-1.1b R2

Group

ISO/RTO Standards Review Committee

Gregory Campoli

Yes

Yes

No

Yes

The IRC/SRC proposes the following changes to the draft: R1. The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the Generator Operator has notified the Transmission Operator. of one of the following: [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations] • That the unit is being operated in start-up1 or shutdown2mode pursuant to a procedure previously provided to the Transmission Operator; or. • That it notifies the Transmission Operator the reason that the unit is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown. We agree with the proposal however, there is no need for the Generator Operator to provide its procedure to the Transmission Operator.

Group

MISO Standards Collaborators

Marie Knox

Yes

Yes

No

While it doesn't impact us directly, the VAR interpretation does not address the question raised by Constellation and the change to the standard adds no value and causes confusion. We recommend the following language: R1. The Generator Operator shall operate each generator connected to the

interconnected transmission system in automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the unit is operated in start-up or shutdown mode or it notifies the Transmission Operator of the reason that the unit is not being operated in automatic voltage control mode.
Yes
Constellation noted that calling the TOP and notifying them that a generator has its voltage regulator off automatic during startup or shutdown is unnecessary and a distraction from the GOP's primary task at hand. It is common practice to take the voltage regulator off automatic during startup and shutdown. The TOP is not relying on VAR support from the generator during startup or shutdown. A strict reading of the new R1 implies that the GOP must still make the phone call, but rather than saying the voltage regulator is out of automatic, they must call to say that the voltage regulator is out of automatic because the unit is starting up or shutting down in accordance with an established procedure.
Group
PPL Electric Utilities and PPL Supply NERC Registered Organizations
Annette M. Bannon
While the PPL Companies think the change to Reliability Standard VAR-002 may result in an improvement compared to the current VAR-002, we believe that the proposed revised Reliability Standard should have been vetted with stakeholders through the Standard Development Team (SDT) process. The proposed revised standard raises questions that could have been avoided with additional vetting by stakeholders. For example, a change was made in VAR-002, R.1 but a corresponding change was not made in R.2. Is this an intentional distinction? Additionally, as discussed in our response to question 3, the new footnotes that were added to define start-up and shutdown, introduce the term "minimum load," which can have different meanings under varying circumstances. Had the SDT process been used it is likely that such issues would have been vetted and clarified by stakeholders.
Yes
As previously stated, the term "minimum load" has various meanings depending upon the circumstances. There is, for example, the "min-load pickup" needed to prevent a newly-synchronized generator from slipping into a reverse-power situation, the "minimum stable load" for unit operation (this is what we think the SDT had in mind), the "minimum environmentally-compliant load," and the "minimum commercial load" a unit may cycle-to at night when power prices fall. We believe such issues could have been vetted during the SDT process.
Individual
DANA SHOWALTER
E.ON CLIMATE & RENEWABLES
No
E.ON Climate & Renewables supports the effort to quickly resolve less controversial issues with a "rapid" revision of a standard and is willing to accept the proposed changes. However, E.ON Climate & Renewables does not believe that this is the proper way to address this issue. An interpretation to clarify the intent behind the language would be sufficient, as the purpose of an interpretation is to address a concern with standard language that may create auditing or performance inconsistencies across the regions. In addition, this revision only partially addresses the issues of and concerns with the VAR standards. A standard revision project is needed for VAR-002, however the revision should address all of the known issues that exist within the current standard language and not just the narrow scope raised in the interpretation request. In regards to the proposed modifications, which attempt to provide greater clarity, additional complications may have been added. Using the terms "start up" and "shut down" creates more confusion than it resolves, as the proposed definitions in the footnotes are unclear and vague. The standard language may not need to be revised if an interpretation properly clarifies the compliance obligation at start up and shutdown. While E.ON Climate & Renewables is willing to accept the proposed changes, E.ON Climate & Renewables would prefer that work cease on the "rapid" approach and proceed with the requested interpretation of VAR-002 be submitted for industry review, with industry input in the development process.

Yes
Yes but the SAR only addresses the interpretation request. While the scope of an interpretation should only address the request, a standard revision should address and improve on issues within the entire standard. Limiting the revision to the single requirement makes a statement that the rest of the requirements are acceptable as written, which, from the opinions of many, is not the case for the VAR standards.
Yes
E.ON Climate & Renewables believes the proposed revision, which attempt to provide greater clarity, addresses the interpretation request, may result in additional confusion based on unit needs and terminology. Using the terms "start up" and "shut down" creates more confusion than it resolves, as the proposed definitions in the footnotes are unclear and vague.
Yes
Going forward, it would be helpful if the SAR quoted the interpretation request it is resolving. In addition, it would be helpful to highlight (even in the clean version) the sections changed within the SAR. It is unclear what criteria are used to judge an issue to determine its qualification for rapid revision. Furthermore, it is unclear who makes the judgments. Enabling stakeholders to better understand the process may make for a more effective deployment of this expedited revision process. While E.ON Climate & Renewables believes a full review and revision of the VAR standards is necessary in the near future.
Group
ACES Power Marketing Standards Collaborators
Jason Mashall
Yes
No
While the request for interpretation may have focused on Requirement R1, Requirement R2 should also be included in the SAR to fully address the issues in the interpretation. Constellation correctly points out in their request for interpretation that generating units that are in start up or shut down mode are not counted upon for reactive power or voltage support. Since Requirement R2 compels the Generator Operator to operate a generator to a voltage or reactive power schedule unless exempted by the Transmission Operator, the Generator Operator will still have to seek an exemption from the Transmission Operator for not controlling voltage during startup and shut down mode. If the Generator Operator is actually expected to maintain a voltage or reactive power schedule while the generating unit is not stable, reliability will be negatively affected because the generating unit is more likely to trip during these unstable operating modes. Ultimately, addressing Requirement R1 without addressing Requirement R2 still leaves the Generator Operator with the burden of an extra communication during the unstable startup and shutdown modes.
No
The changes do not offer clarity on whether the Generator Operator must communicate to the Transmission Operator that it will not operate in automatic voltage control mode during start up or shut down. The previous version of Requirement R1 was open- ended and required the Generator Operator to notify the Transmission Operator when it cannot operate a generator in automatic voltage control mode. The changes only make it clear that one reason the Generator Operator may notify the Transmission Operator is that the generator is in start up or shut down mode. It attempts to subject this reason to a previously provided procedure. However, this only adds confusion because the main body of Requirement R1 still indicates that the Generator Operator has to notify the Transmission Operator. It is not clear if that is through the previously supplied procedure or if Generator Operator has to notify the Transmission Operator each time. The request does not address the ultimate issue in the request for interpretation. Constellation is seeking an exemption to the notification requirement during start up and shut down mode and we agree that it should be provided. Constellation states directly in the request for interpretation that the generating units are not counted upon for voltage or reactive power during startup mode. While any reactive power that the unit supplies in startup or shutdown mode will certainly provide voltage support, Constellation is correct that they are not counted upon during startup and shutdown. It is obvious that a unit shutting down should not be required to control voltage as it will not even provide voltage support once it is off-line. Thus, asking

it to support voltage does not further reliability. Because a unit is in startup mode, the Generator Operator should be given flexibility to get the unit to a stable operating point before putting the unit in automatic voltage control mode. Otherwise, the unit may trip and offer no voltage support. The ultimate issue in the request for interpretation can actually be addressed by adding an exception to the standard requirement. Adding an exception (or an "unless" clause) to NERC standards requirements is a long standing practice. Many requirements in NERC standards have a clause that states actions must be taken unless such action would violate safety, equipment, regulatory and statutory requirements. Some examples include IRO-001-1.1 R8, IRO-014-2 R8, and TOP-001-1a R3, R4, and R6. There are also other "unless" clauses for other reasons. One approach here that would solve the ultimate issue would be to simply add "unless the unit is in startup mode or shutdown mode" to both Requirements R1 and R2.

Yes

We recommend modifying the version history slightly by adding "previously approved" as a description before the VSLs and VRFs. Someone reading this version history in the future may believe that the VSLs and VRFs were created during this posting and did not previously exist.