

Consideration of Comments

Rapid Revision to Address Request for Interpretation of VAR-002 for Constellation Project 2011-INT-02

The VAR-002-02b - Generator Operation for Maintaining Network Voltage Schedules Rapid Revision Drafting Team thanks all commenters who submitted comments on the proposed revisions to VAR-002 for Constellation (Project 2011-INT-02). The proposed revisions to VAR-002 were posted for a 45-day public comment period from February 8, 2012 through March 23, 2012. Stakeholders were asked to provide feedback on VAR-002-2b and associated documents through a special electronic comment form. There were 51 sets of comments, including comments from approximately 133 different people from approximately 90 companies representing all 10 Industry Segments, as shown in the table on the following pages.

All comments submitted may be reviewed in their original format on the standard's project page:

http://www.nerc.com/filez/standards/Project_2011-INT-02_Int_of_VAR-002_for_Const.html

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Vice President of Standards and Training, Herb Schrayshuen, at 404-446-2560 or at herb.schrayshuen@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.¹

Summary Consideration

The drafting team received feedback from stakeholders concerning the rapid revision process, as well as the specific language that was proposed to address the interpretation request. The intent of the rapid revision is to add clarity to the existing approved standard regarding the AVR status during generator start-up and shutdown. The Standards Committee (SC) and the SDT felt that a rapid revision was necessary to address the issue raised by the Interpretation request. The rapid revision provides a change in the VAR-002 Requirement language, which directly addresses the Interpretation request. This approach provides additional clarity to the entities subject to the standard. In response to industry comments on the rapid revision, the SDT has revised the wording of Requirement R1 and Measure M1 to add further clarity to the standard. The revised requirement and measure now read:

¹ The appeals process is in the Standard Processes Manual:
http://www.nerc.com/files/Appendix_3A_Standard_Processes_Manual_Rev%201_20110825.pdf.

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 generator is being operated in start-up¹ or shutdown² pursuant to a Real-time communication or a procedure that was previously provided to the Transmission Operator; or
- That the generator is not being operated in the automatic voltage control mode for a reason other than start-up, shutdown.

¹ Start-up is deemed to have ended when the generator is ramped up to its minimum continuously sustainable load and the generator is preparing for continuous operation.

² Shutdown is deemed to begin when the generator is ramped down to its minimum continuously sustainable load and the generator is preparing to go offline.

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 or shut down with the automatic voltage control off and no notification of the automatic voltage regulator status is made to the Transmission Operator, 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.

The scope of the rapid revision project was also expanded to include revisions to Requirement R2 and its VSLs. The SDT received approval from the SC to address deficiencies in Requirement R2, and has made further changes to R2 to address stakeholder concerns. Requirement R2 is intrinsically linked to VAR-001-2, Requirement R4:

R4. Each Transmission Operator shall specify a voltage or Reactive Power schedule¹ at the interconnection between the generator facility and the Transmission Owner's facilities to be maintained by each 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 in automatic voltage control mode (AVR in service and controlling voltage).

The footnote associated with the above requirement states: The voltage schedule is a target voltage to be maintained within a tolerance band during a specified period. The SDT has revised VAR-002-2b, R2 to change the word “output” to “schedule” to reflect the link between VAR-001-2, R4 and VAR-002-2b, R2. The SDT also added the footnote to VAR-002-2b, R2:

R2. Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power schedule³ (within applicable Facility Ratings⁴) as directed by the Transmission Operator. [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]

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.

Footnote 3 for R2 above is a revision of the footnote from VAR-001-2, R4 above: ³The voltage or Reactive Power schedule is a target value communicated by the Transmission Operator to the Generator Operator establishing a tolerance band within which the target value is to be maintained during a specified period.

The VSLs for R2 were revised to reflect a violation based on the time the Generator Operator operated the generator outside the voltage or Reactive Power schedule range. The lower VSL is for violations of less than 5 minutes. The VSLs are written such that each is incremented 5 minutes until a severe VSL is:

When directed by the Transmission Operator to maintain the generator voltage or reactive power schedule the Generator Operator failed to meet the directed values for more than 15 minutes.

Index to Questions, Comments, and Responses

- 1. Do you agree with the use of this “Rapid” approach to clarify the standard, rather than clarifying the standard through an Interpretation? If No, please explain your concerns.13
- 2. Does the language in the SAR adequately represent the issue raised in the interpretation request? If No, please provide your suggestions to modify the SAR.31
- 3. Does the proposed revision resolve the issue raised in the interpretation request? If No, please provide your suggestions to modify the standard.38
- 4. If you have any other comments on the SAR or on the proposed Standard that you have not provided above, please provide them here.65

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
1.	Group	Jesus Sammy Alcaraz	Imperial Irrigation District (IID)	X		X	X	X					
	Additional Member	Additional Organization	Region	Segment Selection									
1.	Jose Landeros	IID	WECC	1, 3, 4, 5, 6									
2.	Chris Reyes	IID	WECC	1, 3, 4, 5, 6									
3.	John Quinonez	IID	WECC	1, 3, 4, 5, 6									
2.	Group	Guy Zito	Northeast Power Coordinating Council										X
	Additional Member	Additional Organization	Region	Segment Selection									
1.	Alan Adamson	New York State Reliability Council, LLC	NPCC	10									

Group/Individual	Commenter	Organization	Registered Ballot Body Segment																	
			1	2	3	4	5	6	7	8	9	10								
2.	Greg Campoli	New York Independent System Operator	NPCC	2																
3.	Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1																
4.	Donald Weaver	New Brunswick System Operator		2																
5.	Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10																
6.	Mike Garton	Dominion Resources Services, Inc.	NPCC	5																
7.	Kathleen Goodman	ISO - New England	NPCC	2																
8.	Chantel Haswell	FPL Group, Inc.	NPCC	5																
9.	David Kiguel	Hydro One Networks Inc.	NPCC	1																
10	Michael R. Lombardi	Northeast Utilities	NPCC	1																
11	Randy MacDonald	New Brunswick Power Transmission	NPCC	9																
12	Bruce Metruck	New York Power Authority	NPCC	6																
13	Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10																
14	Robert Pellegrini	The United Illuminating Company	NPCC	1																
15	Si-Truc Phan	Hydro-Quebec TransEnergie	NPCC	1																
16	David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5																
17	Ben Wu	Orange and Rockland Utilities	NPCC	1																
18	Saurabh Saksena	National Grid	NPCC	1																
19	Michael Schiavone	National Grid	NPCC	1																
20	Wayne Sipperly	New York Power Authority	NPCC	5																
21	Tina Teng	Independent Electricity System Operator	NPCC	2																
3.	Group	Emily Pannel	Southwest Power Pool Regional Entity																	X
	Additional	Additional Organization	Regio	Segment																

Group/Individual		Commenter	Organization		Registered Ballot Body Segment									
					1	2	3	4	5	6	7	8	9	10
Member			n	Selection										
1.	John Allen	City Utilities of Springfield	SPP	1, 4										
2.	Greg McAuley	Oklahoma Gas & Electric	SPP	1, 3, 5										
3.	Nick McCarty	Kansas City Power & Light	SPP	1, 3, 5, 6										
4.	Stephen McGie	City of Coffeyville	SPP	NA										
5.	Bill Nolte	Sunflower Electric Power Corporation	SPP	1										
6.	Valerie Pinamonti	American Electric Power	SPP	1, 3, 5										
7.	Terri Pyle	Oklahoma Gas & Electric	SPP	1, 3, 5										
8.	Randy Root	Grand River Dam Authority	SPP	1, 3, 5										
9.	Sean Simpson	Board of Public Utilities, City of McPherson	SPP	1, 3, 5										
10.	Michael Wech	Southwestern Power Administration	SPP	1, 5										
4.	Group	Chris Higgins	Bonneville Power Administration		X		X		X	X				
Additional Member		Additional Organization	Region	Segment Selection										
1.	Tedd	Snodgrass	WECC	1										
5.	Group	Don Jones	Texas RE											X
Additional Member		Additional Organization	Region	Segment Selection										
1.	Curtis Crews	Texas RE	ERCOT	10										
2.	David Penney	Texas RE	ERCOT	10										
6.	Group	Robert Rhodes	SPP Standards Review Group			X								
Additional Member		Additional Organization	Region	Segment Selection										
1.	John Allen	City Utilities of Springfield	SPP	1, 4										
2.	Greg McAuley	Oklahoma Gas & Electric	SPP	1, 3, 5										
3.	Nick McCarty	Kansas City Power & Light	SPP	1, 3, 5, 6										
4.	Stephen McGie	City of Coffeyville	SPP	NA										
5.	Bill Nolte	Sunflower Electric Power Corporation	SPP	1										

Group/Individual	Commenter	Organization	Registered Ballot Body Segment											
			1	2	3	4	5	6	7	8	9	10		
6.	Valerie Pinamonti	American Electric Power	SPP	1, 3, 5										
7.	Terri Pyle	Oklahoma Gas & Electric	SPP	1, 3, 5										
8.	Randy Root	Grand River Dam Authority	SPP	1, 3, 5										
9.	Sean Simpson	Board of Public Utilities, City of McPherson	SPP	1, 3, 5										
10.	Michael Wech	Southwestern Power Administration	SPP	1, 5										
7.	Group	Brent Ingebrigtsen	LG&E and KU Services		X		X		X	X				
No additional members listed.														
8.	Group	Frank Gaffney	Florida Municipal Power Agency		X		X	X	X	X				
	Additional Member	Additional Organization	Region	Segment Selection										
1.	Timothy Beyrle	City of New Smyrna Beach	FRCC	4										
2.	Jim Howard	Lakeland Electric	FRCC	3										
3.	Greg Woessner	Kissimmee Utility Authority	FRCC	3										
4.	Lynne Mila	City of Clewiston	FRCC	3										
5.	Joe Stonecipher	Beaches Energy Services	FRCC	1										
6.	Cairo Vanegas	Fort Pierce Utility Authority	FRCC	4										
7.	Randy Hahn	Ocala Utility Services	FRCC	3										
9.	Group	Sam Ciccone	FirstEnergy		X		X	X	X	X				
	Additional Member	Additional Organization	Region	Segment Selection										
1.	Brian Orians	FE	RFC											
2.	Rusty Loy	FE	RFC											
3.	Doug Hohlbaugh	FE	RFC											

Group/Individual		Commenter		Organization		Registered Ballot Body Segment									
						1	2	3	4	5	6	7	8	9	10
4	Kevin Querry	FE	RFC												
5	Chris Lassak	FE	RFC												
10.	Group	Mike Garton		Dominion		X		X		X	X				
	Additional Member	Additional Organization	Region	Segment Selection											
1	Michael Gildea	Dominion Resources Services, Inc.	MRO	5, 6											
2	Louis Slade	Dominion Resources Services, Inc.	RFC	5, 6											
3	Connie Lowe	Dominion Resources Services, Inc.	NPCC	5, 6											
4	Michael Crowley	Virginia Electric and Power Company	SERC	1, 3											
11.	Group	Michael Gammon		Kansas City Power & Light		X		X		X	X				
	Additional Member	Additional Organization	Region	Segment Selection											
1	Nick McCarty	Kansas City Power & Light	SPP	1, 3, 5, 6											
2	Brett Holland	Kansas City Power & Light	SPP	1, 3, 5, 6											
12.	Group	Howard Rulf		We Energies			X	X	X						
	Additional Member	Additional Organization	Region	Segment Selection											
1	Power Generation	We Energies	RFC	3, 4, 5											
13.	Group	Gregory Campoli		ISO/RTO Standards Review Committee		X									
	Additional Member	Additional Organization	Region	Segment Selection											
1	Albert DiCaprio	PJM	RFC	2											
2	Mark Thompson	AESO	WECC	2											
3	Garv DeShazo	CAISO	WECC	2											

Group/Individual	Commenter	Organization	Registered Ballot Body Segment																		
			1	2	3	4	5	6	7	8	9	10									
4	Steven Myers	ERCOT	ERCOT	2																	
5	Ben Li	IESO	NPCC	2																	
6	Matt Goldberg	ISO-NE	NPCC	2																	
7	Bill Phillips	MISO	RFC	2																	
8	Donald Weaver	NBSO	NPCC	2																	
9	Charles Yeung	SPP	SPP	2																	
14.	Group	Marie Knox	MISO Standards Collaborators			X															
	Additional Member	Additional Organization	Region	Segment Selection																	
1	Jim Cyrulewski	JDRJC Associates, LLC	RFC	8																	
15.	Group	Annette M. Bannon	PPL Electric Utilities and PPL Supply NERC Registered Organizations		X					X	X										
	Additional Member	Additional Organization		Region	Segment Selection																
1	Mark Heimbach	PPL EnergyPlus, LLC		MRO	6																
2	Annette Bannon	PPL Generation, LLC on Behalf of its NERC Registered		RFC	5																
3	Brenda Truhe	PPL Electric Utilities Corporation		RFC	1																
16.	Group	Jason Mashall	ACES Power Marketing Standards Collaborators								X										
	Additional Member	Additional Organization		Region	Segment Selection																
1	Mark Ringhausen	Old Dominion Electric Cooperative		RFC	3, 4																
2	Scott Brame	North Carolina Electric Membership		SERC	1. 3. 4. 5																

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
		Corporation											
3	Shari Heino	Brazos Electric Power Cooperative	ERCO T 1										
4	Bob Solomon	Hoosier Energy	RFC 1										
17.	Individual	David Thompson	Tennessee Valley Authority	X		X		X	X				
18.	Individual	Sandra Shaffer	Pacificorp	X		X		X	X				
19.	Individual	Janet Smith	Arizona Public Service Company	X		X		X	X				
20.	Individual	Jim Eckelkamp	Progress Energy	X		X		X	X				
21.	Individual	Thomas E Washburn	FMPP						X				
22.	Individual	Joesph Zerbo	Salt River Project	X		X		X	X				
23.	Individual	Frederick R Plett	Massachusetts Attorney General								X		
24.	Individual	Keira Kazmerski	Xcel Energy	X		X		X	X				
25.	Individual	Dan Roethemeyer	Dynegy					X					
26.	Individual	Rich Salgo	NV Energy	X		X		X	X				
27.	Individual	Julie Lux	Westar Energy	X		X		X	X				
28.	Individual	Martin Kaufman	ExxonMobil Research and Engineering	X				X					
29.	Individual	Terri Pyle	Oklahoma Gas & Electric	X		X		X					
30.	Individual	Michelle R. D'Antuono	Ingleside Cogeneration LP					X					
31.	Individual	Michael Falvo	Independent Electricity System Operator		X								
32.	Individual	RoLynda Shumpert	South Carolina Electric and Gas	X		X		X		X			
33.	Individual	Joe Petaski	Manitoba Hydro	X		X		X	X				
34.	Individual	Greg Rowland	Duke Energy	X		X		X	X				
35.	Individual	David Youngblood	Luminant					X					
36.	Individual	David Thorne	Pepco Holdings	X		X							
37.	Individual	Edward	Davis	X		X		X	X				
38.	Individual	Scott Berry	Indiana Municipal Power Agency				X						

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
39.	Individual	Brian J Murphy	NextEra Energy. Inc.	X		X		X	X				
40.	Individual	Thad Ness	American Electric Power	X		X		X	X				
41.	Individual	Patrick Brown	Essential Power, LLC	X				X					
42.	Individual	Michael Moltane	ITC	X									
43.	Individual	Terry Harbour	MidAmerican Energy	X		X		X	X				
44.	Individual	Kirit Shah	Ameren	X		X		X	X				
45.	Individual	Brad Jones	EFH Luminant Energy						X				
46.	Individual	Daniel Duff	Liberty Electric Power LLC					X					
47.	Individual	Andrew Z. Puztai	American Transmission Company	X									
48.	Individual	Anthony Jablonski	ReliabilityFirst										X
49.	Individual	James R. Keller	We Energies			X							
50.	Individual	John Bee on Behalf of the Exelon Companies	Exelon	X		X		X	X				
51.	Individual	DANA SHOWALTER	E.ON CLIMATE & RENEWABLES					X					

1. Do you agree with the use of this “Rapid” approach to clarify the standard, rather than clarifying the standard through an Interpretation? If No, please explain your concerns.

Summary Consideration: The majority of stakeholders agree with the rapid revision approach. Some commenters expressed concerns with the approach because they identified other issues with VAR-002-1.1b that need to be addressed, as well. In particular, several stakeholders raised concerns with Requirement R2 and its VSLs.

The SDT received approval from the Standards Committee to address deficiencies in Requirement R2, and has made further changes to R2 to address concerns that were expressed. Requirement R2 is intrinsically linked to VAR-001-2 – Voltage and Reactive Control, Requirement R4:

R4. Each Transmission Operator shall specify a voltage or Reactive Power schedule¹ at the interconnection between the generator facility and the Transmission Owner's facilities to be maintained by each 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 in automatic voltage control mode (AVR in service and controlling voltage).

The footnote associated with the requirement states: “The voltage schedule is a target voltage to be maintained within a tolerance band during a specified period.” The SDT has revised VAR-002-2b Requirement R2 to change the word “output” to “schedule” to reflect the link between VAR-001-2, R4 and VAR-002-2b, R2. The SDT also added footnote 3 to VAR-002-2b, R2:

R2. Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power output schedule³ (within applicable Facility Ratings⁴) as directed by the Transmission Operator. [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]

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.

Footnote 3 is a revision of the footnote for Requirement R4 in VAR-001-2: “³The voltage or Reactive Power schedule is a target value communicated by the Transmission Operator to the Generator Operator establishing a tolerance band within which the target value is to be maintained during a specified period.”

The VSLs for R2 were revised to reflect a violation based on the time the Generator Operator operated the generator outside the voltage or Reactive Power schedule range. The lower VSL is for violations of less than 5 minutes. The VSLs are written such that each is incremented 5 minutes until a severe VSL is:

“When directed by the Transmission Operator to maintain the generator voltage or reactive power schedule the Generator Operator failed to meet the directed values for more than 15 minutes.”

Organization	Yes or No	Question 1 Comment
Madison Gas and Electric Co.	Negative	VAR-002 does not need a Rapid Revision. R1 states you need to be in AVR when the unit is connected unless you notify the TOP. R2 gives you an exemption to R1 and R3 states that within 30 minutes you inform the TOP the change in status or capability. A simple interpretation what work but is not required.
<p>Response: Thank you for your comment. The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the Interpretation request. The rapid revision provides a change in the VAR-002 Requirement language, which directly addresses the Interpretation request. This approach provides additional clarity to the entities subject to the standard.</p>		
Wisconsin Electric Power Co.	Negative	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.
<p>Response: Thank you for your comment. The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the Interpretation request. The rapid revision provides a change in the VAR-002 Requirement language, which directly addresses the Interpretation request. This approach provides additional clarity to the entities subject to the standard. The SDT modified Requirement R1 to remove the need for the GOP to notify the TOP about the AVR operation during start-up and</p>		

Organization	Yes or No	Question 1 Comment
shutdown, as you suggested.		
Wisconsin Electric Power Marketing	Negative	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.
Response: Thank you for your comment. The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the Interpretation request. The rapid revision provides a change in the VAR-002 Requirement language, which directly addresses the Interpretation request. This approach provides additional clarity to the entities subject to the standard. The SDT modified Requirement R1 to remove the need for the GOP to notify the TOP about the AVR operation during start-up and shutdown, as you suggested.		
Wisconsin Energy Corp.	Negative	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. NOTE: other comments submitted in the comment form.
Response: Thank you for your comment. The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the Interpretation request. The rapid revision provides a change in the VAR-002 Requirement language, which directly addresses the Interpretation request. This approach provides additional clarity to the entities subject to the standard. The SDT modified Requirement R1 to remove the need for the GOP to notify the TOP about the AVR operation during start-up and shutdown, as you suggested.		

Organization	Yes or No	Question 1 Comment
Xcel Energy, Inc.	Negative	<p>Q1: 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”</p> <p>Additional Comments: 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.</p>
<p>Response: Thank you for your comment. Project 2008-01, Voltage and Reactive Planning and Control, has been established to address all aspects of VAR-001 and VAR-002, as well as other possible revisions or additions to the VAR standards. That project is currently in informal development, but will return to active development as soon as NERC staff resources become available. The term “minimum load” was further clarified, and changes were made to R2 and the VSL’s to address your concerns.</p>		
Florida Municipal Power Agency	No	<p>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 of solar farm, etc. In addition, while R1 has become clearer as to the</p>

Organization	Yes or No	Question 1 Comment
		<p>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 preferably 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.).</p>
<p>Response: Thank you for your comment. The first bullet under R1 has been modified to provide additional clarity regarding the term "notify", as you suggest.</p> <ul style="list-style-type: none"> That the generator is being operated in start-up or shutdown mode pursuant to a Real-time communication, or a procedure that was previously provided to the Transmission Operator. <p>This provides information regarding what is meant by the word "notify". R3 is outside the scope of the rapid revision process.</p>		
We Energies	No	<p>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.</p>
<p>Response: Thank you for your comment. The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard. The SDT has made further revisions to the language to provide additional clarity.</p>		
Xcel Energy	No	<p>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".</p>

Organization	Yes or No	Question 1 Comment
<p>Response: Thank you for your comment. Additional language has been added to clarify “minimum load.” The footnotes now read:</p> <p>¹ Start-up is deemed to have ended when the generator is ramped up to its minimum continuously sustainable load and the generator is prepared for continuous operation.</p> <p>² Shutdown is deemed to begin when the generator is ramped down to its minimum continuously sustainable load and the generator is prepared to go offline.</p>		
Dynergy	No	I don't know that I understand the differences between the two options.
<p>Response: Thank you for your comment. The NERC Board of Trustees has provided direction that any interpretation of a NERC standard must restrict itself to the words contained in the standard. If clarity cannot be provided without referencing additional work, and the clarity is still necessary, then the words of the standard must be modified to provide that clarity. A rapid revision is a tool to make a small adjustment to the wording to clarify the intent of the standard. Since it is a modification to the standard, it must follow the process for standard revision. The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the interpretation request.</p>		
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.
<p>Response: Thank you for your comment. The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. Members of the Project 2008-01 drafting team are working on this rapid revision, which is intended to address an interpretation request. The Standards Committee is following its approved processes. The SDT believes that your suggestion is allowed by the language of the requirement. If a Generator Operator provides a Transmission</p>		

Organization	Yes or No	Question 1 Comment
Operator with its AVR procedures during start-up and shutdown, then no further notifications are required.		
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.
Response: Thank you for your comment. Members of the Project 2008-01 drafting team are working on this rapid revision, which is intended to address an interpretation request. The Standards Committee is following its approved processes.		
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.
Response: Thank you for your comment. Members of the Project 2008-01 drafting team are working on this rapid revision, which is intended to address an interpretation request. The Standards Committee is following its approved processes.		
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

Organization	Yes or No	Question 1 Comment
		<p>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.</p>
<p>Response: Thank you for your comment. Members of the Project 2008-01 drafting team are working on this rapid revision, which is intended to address an interpretation request. The Standards Committee is following its approved processes contained in the Standards Process Manual.</p>		
<p>EFH Luminant Energy</p>	<p>No</p>	<p>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.</p>
<p>Response: Thank you for your comment. Members of the Project 2008-01 drafting team are working on this rapid revision, which is intended to address an interpretation request. The Standards Committee is following its approved processes. The scope of this rapid revision is limited to R1 and R2 (which was recently added to the scope).</p>		
<p>American Transmission Company</p>	<p>No</p>	<p>An interpretation would allow a thorough vetting of the issue at hand, rather than opening up the entire Standard to revision.</p>
<p>Response: Thank you for your comment. The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard. The scope of this rapid revision is limited to R1 and R2 (which was recently added to the scope).</p>		
<p>We Energies</p>	<p>No</p>	<p>We strongly disagree with this approach and believe it does not properly</p>

Organization	Yes or No	Question 1 Comment
		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.
<p>Response: Thank you for your comment. The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard. The SDT has made further revisions to the language to provide additional clarity.</p>		
Exelon	No	<p>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</p>

Organization	Yes or No	Question 1 Comment
		<p>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</p>

Organization	Yes or No	Question 1 Comment
		<p>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.</p>
<p>Response: Thank you for your comment. The NERC Board of Trustees has provided direction that any interpretation of a NERC standard must restrict itself to the words contained in the standard. If clarity cannot be provided without referencing additional work, and the clarity is still necessary, then the words of the standard must be modified to provide that clarity. A Rapid Revision is a tool to make a small adjustment to the wording to clarify the intent of the standard. Members of the Project 2008-01 drafting team are working on this rapid revision, which is intended to address this interpretation request. The scope of this rapid revision is limited to R1 and R2 (which was recently added to the scope). The SDT has recognized the link between VAR-001-2, R4 and VAR-002-2b, R2, and has included revisions in VAR-002b to add clarity. The SDT received approval from the SC to address deficiencies in Requirement R2 and has made further changes to R2 to address your concerns. Requirement R2 is intrinsically linked to VAR-</p>		

Organization	Yes or No	Question 1 Comment
		<p>001-2, Requirement R4:</p> <p>R4. Each Transmission Operator shall specify a voltage or Reactive Power schedule ¹ at the interconnection between the generator facility and the Transmission Owner's facilities to be maintained by each 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 in automatic voltage control mode (AVR in service and controlling voltage).</p> <p>The footnote associated with the requirement states: “The voltage schedule is a target voltage to be maintained within a tolerance band during a specified period.” The SDT has revised R2 to change the word “output” to “schedule” to reflect the link between VAR-001-2, R4 and VAR-002-2b, R2. The SDT also added the footnote to VAR-002-2b, R2:</p> <p>R2. Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power output schedule³ (within applicable Facility Ratings⁴) as directed by the Transmission Operator. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]</p> <p>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.</p> <p>R2.2. When directed to modify voltage, the Generator Operator shall comply or provide an explanation of why the schedule cannot be met.</p> <p>Footnote 3 is a revision of the footnote above:</p> <p>³The voltage or Reactive Power schedule is a target value communicated by the Transmission Operator to the Generator Operator establishing a tolerance band within which the target value is to be maintained during a specified period.</p> <p>The VSLs for R2 were revised to reflect a violation based on the time the Generator Operator operated the generator outside the voltage or Reactive Power schedule range. The lower VSL is for violations of less than 5 minutes. The VSLs are written such that each is incremented 5 minutes until a severe VSL is:</p> <p>When directed by the Transmission Operator to maintain the generator voltage or reactive power schedule the Generator Operator failed to meet the directed values for more than 15 minutes.</p> <p>The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the Interpretation request.</p>

Organization	Yes or No	Question 1 Comment
<p>This approach provides additional clarity to the entities subject to the standard. Project 2008-01, Voltage and Reactive Planning and Control, has been established to address all aspects of VAR-001 and VAR-002, as well as other possible revisions or additions to the VAR standards. That project is currently in informal development, but will return to active development as soon as NERC staff resources become available.</p>		
<p>E.ON CLIMATE & RENEWABLES</p>	<p>No</p>	<p>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.</p>
<p>Response: Thank you for your comment. The NERC Board of Trustees has provided direction that any interpretation of a NERC standard must restrict itself to the words contained in the standard. If clarity cannot be provided without referencing additional work, and the clarity is still necessary, then the words of the standard must be modified to provide that clarity. A rapid Revision is</p>		

Organization	Yes or No	Question 1 Comment
<p>a tool to make a small adjustment to the wording to clarify the intent of the standard. Members of the Project 2008-01 drafting team are working on this rapid revision, which is intended to address an interpretation request. The scope of this rapid revision is limited to R1 and R2 (which was recently added to the scope). The NERC Standards Committee felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 Requirement language, which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard. The term “minimum load” was further clarified to address start-up and shutdown concerns. Project 2008-01, Voltage and Reactive Planning and Control, has been established to address all aspects of VAR-001 and VAR-002, as well as other possible revisions or additions to the VAR standards. That project is currently in informal development, but will return to active development as soon as NERC staff resources become available.</p>		
Texas RE	Yes	We don’t believe there is any basis in the Standard for effectively answering this question through an interpretation.
<p>Response: Thank you for your comment.</p>		
FirstEnergy	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.
<p>Response: Thank you for your comment. Please see our responses to your other comments. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. Any further modifications go beyond the scope of a rapid revision. Project 2008-01, Voltage and Reactive Planning and Control, has been established to address all aspects of VAR-001 and VAR-002, as well as other possible revisions or additions to the VAR standards. That project is currently in informal development, but will return to active development as soon as NERC staff resources become available.</p>		
Progress Energy	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.

Organization	Yes or No	Question 1 Comment
Response: Thank you for your comment.		
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"
Response: Thank you for your comment. The drafting team believes that the wording of R1 meets the intent of your comment. R1 also allows the GOP to operate the generator without the automatic voltage regulator in service and controlling voltage if he has notified the TOP. This may be required under what may still be termed "normal operating conditions."		
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.
Response: Thank you for your comment.		
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.
Response: Thank you for your comment.		
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

Organization	Yes or No	Question 1 Comment
		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.
<p>Response: Thank you for your comment. The standard drafting team is following the NERC standards development process, and will address all comments submitted regarding this standard. Project 2008-01, Voltage and Reactive Planning and Control, has been established to address all aspects of VAR-001 and VAR-002, as well as other possible revisions or additions to the VAR standards. That project is currently in informal development, but will return to active development as soon as NERC staff resources become available.</p>		
Imperial Irrigation District (IID)	Yes	
Northeast Power Coordinating Council	Yes	
Southwest Power Pool Regional Entity	Yes	
Bonneville Power Administration	Yes	
SPP Standards Review Group	Yes	
Dominion	Yes	
Kansas City Power & Light	Yes	
ISO/RTO Standards Review Committee	Yes	
MISO Standards Collaborators	Yes	

Organization	Yes or No	Question 1 Comment
ACES Power Marketing Standards Collaborators	Yes	
Tennessee Valley Authority	Yes	
Arizona Public Service Company	Yes	
Salt River Project	Yes	
Westar Energy	Yes	
Oklahoma Gas & Electric	Yes	
Independent Electricity System Operator	Yes	
South Carolina Electric and Gas	Yes	
Manitoba Hydro	Yes	
Duke Energy	Yes	
Pepco Holdings	Yes	
Davis	Yes	
Essential Power, LLC	Yes	
ITC	Yes	
MidAmerican Energy	Yes	

Organization	Yes or No	Question 1 Comment
Ameren	Yes	
ReliabilityFirst	Yes	
PPL Electric Utilities and PPL Supply NERC Registered Organizations		<p>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.</p>
<p>Response: Thank you for your comment. The standard drafting team is following the NERC standards development process and will address all comments submitted regarding this standard. The intent of the rapid revision is to add clarity to the existing approved standard regarding the AVR status during generator start-up and shutdown. The Standards Committee and the SDT felt that a rapid revision provided greater clarity on the issue raised by the Interpretation request. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the Interpretation request. This approach provides additional clarity to the entities subject to the standard. Some industry comments addressed other aspects of VAR 002-1.</p>		

2. Does the language in the SAR adequately represent the issue raised in the interpretation request? If No, please provide your suggestions to modify the SAR.

Summary Consideration: The vast majority of stakeholders agree that the SAR adequately represents the issue raised in the interpretation request. One stakeholder suggested adding testing as a condition to R1 exclusions. The SDT believes that testing is already addressed under the condition described in the second bullet under R1 and it is not necessary to include it explicitly in the standard. Another stakeholder expressed concerns with R2 and its VSLs, and thought revisions to it were necessary.

Organization	Yes or No	Question 2 Comment
FirstEnergy	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.
<p>Response: Thank you for your comment. Please see our responses to your comments in Question 3. Testing certainly falls under the condition described in the second bullet under R1. As long as the GOP has notified the TOP, operation with the automatic voltage regulator not in service controlling voltage is allowed. Periods of testing should not be nearly as frequent as start-up and shutdown, and the separate notification requirements are not determined to be a burden to either the GOP or TOP. Revisions to Requirement R3 are outside the scope of this rapid revision project.</p>		
ACES Power Marketing Standards Collaborators	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

Organization	Yes or No	Question 2 Comment
		<p>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.</p>
<p>Response: Thank you for your comment. The SDT received approval from the SC to address deficiencies in Requirement R2, and has made further changes to R2 to address your concerns. Requirement R2 is intrinsically linked to VAR-001-2, Requirement R4:</p> <p>R4. Each Transmission Operator shall specify a voltage or Reactive Power schedule ¹ at the interconnection between the generator facility and the Transmission Owner's facilities to be maintained by each 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 in automatic voltage control mode (AVR in service and controlling voltage).</p> <p>The footnote associated with the requirement states: "The voltage schedule is a target voltage to be maintained within a tolerance band during a specified period." The SDT has revised R2 to change the word "output" to "schedule" to reflect the link between VAR-001-2, R4 and VAR-002-2b, R2. The SDT also added the footnote to VAR-002-2b, R2:</p> <p>R2. Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power output schedule³ (within applicable Facility Ratings⁴), as directed by the Transmission Operator. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]</p> <p>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.</p> <p>R2.2. When directed to modify voltage, the Generator Operator shall comply or provide an explanation of why the schedule cannot be met.</p> <p>Footnote 3 is a revision of the footnote above:</p> <p>³The voltage or Reactive Power schedule is a target value communicated by the Transmission Operator to the Generator Operator establishing a tolerance band within which the target value is to be maintained during a specified period.</p>		

Organization	Yes or No	Question 2 Comment
NextEra Energy. Inc.	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.
<p>Response: Thank you for your comment. The SDT feels the proposed revisions to R1 will provide regional consistency by making the clarification in the actual standard language. The periods of start-up and shutdown were specifically addressed in the interpretation request.</p>		
Progress Energy	Yes	Partially
<p>Response: Thank you for your comment.</p>		
Exelon	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.
<p>Response: Thank you for your comment. Please refer to the response provided in Question 1.</p>		
E.ON CLIMATE & RENEWABLES	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.

Organization	Yes or No	Question 2 Comment
<p>Response: Thank you for your comment. The project scope was recently revised to include R2 and its VSLs. Project 2008-01, Voltage and Reactive Planning and Control, has been established to address all aspects of VAR-001 and VAR-002, as well as other possible revisions or additions to the VAR standards. That project is currently in informal development, but will return to active development as soon as NERC staff resources become available.</p>		
Imperial Irrigation District (IID)	Yes	
Northeast Power Coordinating Council	Yes	
Southwest Power Pool Regional Entity	Yes	
Bonneville Power Administration	Yes	
SPP Standards Review Group	Yes	
LG&E and KU Services	Yes	
Florida Municipal Power Agency	Yes	
Dominion	Yes	
Kansas City Power & Light	Yes	
We Energies	Yes	
ISO/RTO Standards Review Committee	Yes	

Organization	Yes or No	Question 2 Comment
MISO Standards Collaborators	Yes	
PPL Electric Utilities and PPL Supply NERC Registered Organizations	Yes	
Tennessee Valley Authority	Yes	
Arizona Public Service Company	Yes	
Salt River Project	Yes	
Massachusetts Attorney General	Yes	
Xcel Energy	Yes	
Dynegy	Yes	
NV Energy	Yes	
Westar Energy	Yes	
ExxonMobil Research and Engineering	Yes	
Oklahoma Gas & Electric	Yes	
Ingleside Cogeneration LP	Yes	

Organization	Yes or No	Question 2 Comment
Independent Electricity System Operator	Yes	
South Carolina Electric and Gas	Yes	
Manitoba Hydro	Yes	
Duke Energy	Yes	
Luminant	Yes	
Pepco Holdings	Yes	
Davis	Yes	
Essential Power, LLC	Yes	
ITC	Yes	
MidAmerican Energy	Yes	
Ameren	Yes	
EFH Luminant Energy	Yes	
Liberty Electric Power LLC	Yes	
American Transmission Company	Yes	

Organization	Yes or No	Question 2 Comment
ReliabilityFirst	Yes	
We Energies	Yes	
Indiana Municipal Power Agency		no comment

3. Does the proposed revision resolve the issue raised in the interpretation request? If No, please provide your suggestions to modify the standard.

Summary Consideration: Most stakeholders agree with the revisions, but many stakeholders made suggestions for revisions that add clarity to the standard. The intent of the rapid revision is to add clarity to the existing -approved standard regarding the AVR status during generator start up and shut down. The Standards Committee (SC) and the SDT felt that a rapid revision provided greater clarity on the issue raised by the Interpretation request than would be possible with an Interpretation. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard.

Some industry comments addressed other aspects of VAR 002-1. Comments not within the scope of the rapid revision will be considered by the drafting team established to complete project 2008-01 – Voltage and Reactive Planning and Control. In response to industry comments on the rapid revision, the SDT has revised the wording to add further clarity. The SDT has revised the wording of Requirement R1 and Measure M1 to add further clarity to AVR status during generator startup and shut down in the standard. The revised requirement and measure now read:

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 generator is being operated in start-up¹ or shutdown² pursuant to a Real-time communication or a procedure that was previously provided to the Transmission Operator; or
- That the generator is not being operated in the automatic voltage control mode for a reason other than start-up, shutdown.

¹ Start-up is deemed to have ended when the generator is ramped up to its minimum continuously sustainable load and the generator is preparing for continuous operation.

² Shutdown is deemed to begin when the generator is ramped down to its minimum continuously sustainable load and the generator is preparing to go offline.

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 or shut down with the automatic voltage control off and no notification of the automatic voltage regulator status is made to the Transmission Operator, 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.

The scope of the rapid revision project was also expanded to include revisions to Requirement R2 and its VSLs. The SDT received approval from the SC to address deficiencies in Requirement R2, and has made further changes to R2 to address concerns that were expressed by stakeholders. VAR-002-2b Requirement R2 is intrinsically linked to VAR-001-2 – Voltage and Reactive Control, Requirement R4:

R4. Each Transmission Operator shall specify a voltage or Reactive Power schedule¹ at the interconnection between the generator facility and the Transmission Owner's facilities to be maintained by each 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 in automatic voltage control mode (AVR in service and controlling voltage).

The footnote associated with the requirement states: “The voltage schedule is a target voltage to be maintained within a tolerance band during a specified period.” The SDT has revised R2 to change the word “output” to “schedule” to reflect the link between VAR-001-2, R4 and VAR-002-2b, R2. The SDT also added the footnote to VAR-002-2b, R2:

R2. Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power output schedule³ (within applicable Facility Ratings⁴), as directed by the Transmission Operator. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

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.

Footnote 3 for R2 above is a revision of the footnote from VAR-001-2, R4 above: ³The voltage or Reactive Power schedule is a target value communicated by the Transmission Operator to the Generator Operator establishing a tolerance band within which the target value is to be maintained during a specified period.

The VSLs for R2 were revised to reflect a violation based on the time the Generator Operator operated the generator outside the voltage or Reactive Power schedule range. The lower VSL is for violations of less than 5 minutes. The VSLs are written such that each is incremented 5 minutes until a severe VSL is:

When directed by the Transmission Operator to maintain the generator voltage or Reactive Power schedule, the Generator Operator failed to meet the directed values for more than 15 minutes.

Organization	Yes or No	Question 3 Comment
Alliant Energy Corp. Services, Inc.	Negative	Alliant Energy believes this proposed revision will drive up the number of violations as it tries to define startup and shutdown modes for a generator, and there are so many different types of generators that it is not reasonable.
<p>Response: Thank you for your comment. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shutdown. Flexibility has been given to the generator operators to provide documentation to the TOP that allows the GO to define the start-up, shut-down parameters for any particular generator. In response to industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reason for having an AVR out of service. The SDT believes that by allowing the GOP to provide the TOP a procedure on AVR operation, compliance with VAR-002 R1 shall be simplified and the number of violations will decrease.</p>		
City and County of San Francisco	Negative	This revision is unnecessary and further complicates NERC Standard VAR-002. CAN-022 already addresses the acceptability of a Generator providing "blanket notification" regarding the operation of AVR during start-up and shut-down. If ramping time is to be specifically addressed in this Standard, then why not every other potential reason for having AVR out of service, such as testing.
<p>Response: Thank you for your comment. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator startup and shut down. The Standards Committee and the SDT felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. This approach</p>		

Organization	Yes or No	Question 3 Comment
<p>provides additional clarity to the entities subject to the standard. In response to industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reason for having an AVR out of service. The SDT believes that this clarification will minimize the need to refer to the CAN 022.</p>		
Midwest ISO, Inc.	Negative	<p>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.</p>
<p>Response: Thank you for your comment. The SDT cannot act on your comment without specific concerns with language that was developed to address the interpretation request. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing -approved standard regarding the AVR status during generator start-up and shut down. In that regard the SDT believes that it has directly addressed Constellations' issues. However, in response to industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reasons for having an AVR out of service. The scope of the rapid revision project was also expanded to include R2 and its VSLs.</p>		
Tenaska, Inc.	Negative	<p>It would be preferred to simply write R1 as follows: 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. The GOP is not required to be controlling voltage during periods of startup and shutdown, so the GOP shall provide the TOP with a statement specifying the MW level above which the generator will be operating with its AVR in service and controlling voltage. If the drafting team does not believe that change will satisfy the request for interpretation, then it is suggested that footnotes 1 and 2 be modified as follows: 1. Start-up is deemed to have ended when the unit is ramped up to a minimum continuously sustainable load level where all operational and environmental specifications are met, the AVR becomes operational in automatic mode per OEM specifications and the unit for entering continuous operation. 2. Shutdown is deemed to begin when the unit is ramped down to a load level where all operational and environmental specifications can no longer be met, the AVR is no longer operational in automatic mode per OEM specifications and the unit is</p>

Organization	Yes or No	Question 3 Comment
		preparing to go offline.
<p>Response: The SDT thanks you for your comments, and agrees that further clarification can be incorporated into the footnote. The SDT believes adding the words “continuously sustainable” addresses the environmental and OEM concerns. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reason for having an AVR out of service.</p>		
<p>Wisconsin Electric Power Co., Wisconsin Electric Power Marketing, Wisconsin Energy Corp.</p>	<p>Negative</p>	<p>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.</p>
<p>Response: Thank you for your comment. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shut down. The Standards Committee and the SDT felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard. In response to industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reason for having an AVR out of service. The SDT believes that R1 has been clarified by allowing the GOP to provide procedures to the TOP, thereby improving the knowledge between the two entities.</p>		
<p>SPP Standards Review Group</p>	<p>No</p>	<p>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: o 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, o the Generator Operator has</p>

Organization	Yes or No	Question 3 Comment
		<p>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.</p>
<p>Response: The SDT thanks you for your comments. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reason for having an AVR out of service. Comments not within the scope of the rapid revision will be considered by the drafting team established to complete project 2008-01.</p>		
<p>Florida Municipal Power Agency</p>	<p>No</p>	<p>Please see comments to Question 1</p>
<p>Response: Thank you for your comment. Please see our responses to your comments in Question 1.</p>		
<p>FirstEnergy</p>	<p>No</p>	<p>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</p>

Organization	Yes or No	Question 3 Comment
		<p>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.</p>
<p>Response: The SDT thanks you for your comments. The rapid revision process addresses AVR during start-up and shutdown. The second bullet in R1 provides for other reasons, such as testing, that the AVR may be taken out of service. The SDT believes that R1 captures the issue and there is no need to re-enforce the language in other requirements. Since the words regarding testing were not incorporated, the changes to the measurements that you suggested are not required. The drafting team did modify M1 to add clarity. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reason for having an AVR out of service. Comments not within the scope of the rapid revision will be considered by the drafting team established to complete project 2008-01.</p>		

Organization	Yes or No	Question 3 Comment
Dominion	No	<p>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.</p>
<p>Response: The SDT thanks you for your comments, and agrees that you have captured Constellations’ concern. However, the industry agrees with Constellations’ concern that, as written, there is ambiguity in the exiting language and better clarity is desired. The Standards Committee and the SDT felt that a rapid revision provided greater clarity by allowing the GOP to provide the TOP with a procedure. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard. In response to industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reason for having an AVR out of service.</p>		
Kansas City Power & Light	No	<p>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: o 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</p>

Organization	Yes or No	Question 3 Comment
		<p>previously provided to the Transmission Operator; or, o 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.</p>
<p>Response: The SDT thanks you for your comments. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reason for having an AVR out of service. Comments not within the scope of the rapid revision will be considered by the drafting team established to complete project 2008-01.</p>		
We Energies	No	<p>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.</p>
<p>Response: Thank you for your comments. We agree that GOP can “best determine when a unit is stable,” and we assume that if the unit is not stable, the GOP will not synchronize the unit until the unit controls prove to be stable. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shutdown. The Standards Committee and the SDT felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard. Flexibility has been given to the generator operators to provide documentation to the TOP that allows the GO to define the start-up, shutdown</p>		

Organization	Yes or No	Question 3 Comment
<p>parameters for any particular generator. In response to industry comments, the SDT has revised the proposed language to add clarity to this issue while, providing operational flexibility for other reason for having an AVR out of service.</p>		
<p>MISO Standards Collaborators</p>	<p>No</p>	<p>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.</p>
<p>Response: Thank you for your comment. The drafting team believes that the language contained in the requirements meets the intent of your suggested revision.</p>		
<p>ACES Power Marketing Standards Collaborators</p>	<p>No</p>	<p>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</p>

Organization	Yes or No	Question 3 Comment
		<p>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.</p>
<p>Response: The SDT thanks you for your comments. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reasons for having an AVR out of service and to incorporate the “unless start –up, shutdown mode” language in R1. The second bullet in R1 provides for other reasons, such as testing, that the AVR may be taken out of service. The SDT believes that R1 has been clarified by allowing the GOP to provide procedures to the TOP, thereby improving the knowledge between the two entities. This also allows the GOP to change their operations (i.e. AVR operations prior to synchronizing, or immediately after synchronizing, etc.).</p>		
Tennessee Valley Authority	No	<p>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</p>

Organization	Yes or No	Question 3 Comment
		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.
Response: The SDT thanks you for your comments. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue. "Start-up is deemed to have ended when the generator is ramped up to its minimum continuously sustainable load and the generator is preparing for continuous operation."		
Massachusetts Attorney General	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"
Response: The SDT thanks you for your comments. The drafting team believes that the wording of R1 meets the intent of your comment. R1 also allows the GOP to operate the generator without the automatic voltage regulator in service and controlling voltage if he has notified the TOP. This may be required under what may still be termed "normal operating conditions."		
Dynergy	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.
Response: The SDT thanks you for your comments. The drafting team believes that the wording of R1 meets the intent of your comment. R1 also allows the GOP to operate the generator without the automatic voltage regulator in service and controlling voltage if he has notified the TOP. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue.		
Westar Energy	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.
Response: The SDT thanks you for your comments. In response to your comments, as well as other industry comments, the SDT has		

Organization	Yes or No	Question 3 Comment
<p>revised the proposed language to add clarity to this issue. The wording “previously notified” contained within R1 addresses your concern regarding the need to notify during each change of status.</p>		
<p>ExxonMobil Research and Engineering</p>	<p>No</p>	<p>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 inherent requirement to coordinate generator startups and shutdowns as it relates to the operation of the generator's AVR.</p>
<p>Response: Thank you for your comments. The SDT did not include verbiage stating that start-up or shutdown procedures are required; only procedures on how the AVR will be operated. In addition, in start-up and shutdowns are not coordinated through the BA outage scheduling process, but is a BA dispatch schedule.</p>		
<p>Oklahoma Gas & Electric</p>	<p>No</p>	<p>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: o 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; o 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, o The Generator Operator has previously notified the Transmission Operator that</p>

Organization	Yes or No	Question 3 Comment
		the unit is not equipped with an automatic voltage regulator.
<p>Response: The SDT thanks you for your comments. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reason for having an AVR out of service. Flexibility has been given to the generator operators to provide documentation to the TOP that allows the GO to define the start-up, shut-down parameters for any particular generator. The SDT does not believe that the proposed third bullet is necessary, as a generator that does not have an AVR is addressed in the second bullet.</p>		
Ingleside Cogeneration LP	No	<p>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.</p>
<p>Response: The SDT thanks you for your comments. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue. Flexibility has been given to the generator operators to provide documentation to the TOP that allows the GO to define the start-up, shutdown parameters for any particular generator. Based on the comments received, the drafting team revised the footnotes to:</p> <p>¹ Start-up is deemed to have ended when the generator is ramped up to its minimum continuously sustainable load and the generator is prepared for continuous operation.</p> <p>² Shutdown is deemed to begin when the generator is ramped down to its minimum continuously sustainable load and the generator</p>		

Organization	Yes or No	Question 3 Comment
is prepared to go offline.		
Duke Energy	No	<ul style="list-style-type: none"> o 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,” o 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”.
Response: Thank you for your comments. The SDT tried to capture the concepts in CAN-022, allowing for advance notification by		

Organization	Yes or No	Question 3 Comment
		<p>incorporating procedures into R1. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shutdown. Flexibility has been given to the generator operators to provide documentation to the TOP that allows the GO to define the start-up, shutdown parameters for any particular generator. The SDT believes that R1 captures the issue and there is no need to re-enforce the language in other requirements. In response to industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reason for having an AVR out of service. Revisions to R3 are outside the scope of this project. We have revised the measure M1, as you suggested.</p>
Davis	No	<p>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: o That the unit is being operated in start-up1 or shutdown2mode pursuant to a procedure previously provided to the Transmission Operator; or. o That the unit is not being operated in the automatic voltage control mode for a reason other than</p>

Organization	Yes or No	Question 3 Comment
		<p>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.</p>
<p>Response: Thank you for your comments. The revised requirement allows for notification to be made prior to Real-time operations using a procedure. In all likelihood, the generator is not going to be operated in AVR mode during start-up or shutdown. This is the basis for the revision to the standard. The requirement also allows for Real-time notifications and provides flexibility in operations during a time when the Generator Operator is more appropriately focused on maintaining generator stability and reliability. As per TOP-001, the TOP has significant reliability authority and is aware of the generators synchronized within its service area, as well as their Real and Reactive Power capabilities and limits (i.e., load limits, AVR status, etc). The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shut down. The majority of industry comments have been supportive and provide suggestions for further clarity, rather than deletion of the proposed changes. The SDT does not believe this clarifying language imposes additional burden on the TOP. Comments not within the scope of the rapid revision will be considered by the drafting team established to complete project 2008-01.</p>		
<p>Indiana Municipal Power Agency</p>	<p>No</p>	<p>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).</p>
<p>Response: The SDT thanks you for your comments. Footnote 2 “ramped down to its minimum continuously-stable load and the</p>		

Organization	Yes or No	Question 3 Comment
<p>generator is preparing to go offline” does not include a time element. It does not preclude a generator that had been operating at minimum load for some time period to then begin preparing to go offline. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue. Flexibility has been given to the generator operators to provide documentation to the TOP that allows the GO to define the start-up, shutdown parameters for any particular generator.</p>		
<p>American Electric Power</p>	<p>No</p>	<p>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.</p>
<p>Response: Thank you for your comment. The SDT does not believe that the first bullet under R1 is addressed in other standards. This scenario is the basis for the interpretation request that we received. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shutdown. The majority of industry comments has been supportive and provides suggestions for further clarity, rather than deletion of the proposed changes. Comments not within the scope of the rapid revision will be considered by the drafting team established to complete project 2008-01.</p>		
<p>MidAmerican Energy</p>	<p>No</p>	<p>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,</p>

Organization	Yes or No	Question 3 Comment
		<p>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.)</p> <p>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</p>

Organization	Yes or No	Question 3 Comment
		<p>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.</p>
<p>Response: Thank you for your comment. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shutdown. The Standards Committee and the SDT felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 requirement language, which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard. The majority of industry comments have been supportive and provide suggestions for further clarity, rather than deletion of the proposed changes. Comments not within the scope of the rapid revision will be considered by the drafting team established to complete project 2008-01.</p>		
<p>Liberty Electric Power LLC</p>	<p>No</p>	<p>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.</p>
<p>Response: The SDT thanks you for your comments. In response to your comments, as well as other industry comments, the SDT has revised the proposed language to add clarity to this issue. Flexibility has been given to the generator operators to provide documentation to the TOP that allows the GO to define the start-up, shutdown parameters for any particular generator.</p>		

Organization	Yes or No	Question 3 Comment
American Transmission Company	No	<p>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.</p>
<p>Response: Thank you for your comment. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shutdown. The Standards Committee and the SDT felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 requirement language which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard. The majority of industry comments have been supportive and provide suggestions for further clarity, rather than deletion of the proposed changes. In response to industry comments, the SDT has revised the proposed language to add clarity to this issue while providing operational flexibility for other reason for having an AVR out of service. Flexibility has been given to the generator operators to provide documentation to the TOP that allows the GO to</p>		

Organization	Yes or No	Question 3 Comment
define the start-up, shutdown parameters for any particular generator.		
ReliabilityFirst	No	<p>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.”</p>
<p>Response: The SDT thanks you for your response. However, the SDT does not believe that TOP acceptance should be incorporated into the requirements. Equipment status and limitations are identified by the GOP and are the responsibility of the GOP to transmit this information to the TOP.</p>		
Exelon	No	<p>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.</p> <p>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.</p> <p>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</p>

Organization	Yes or No	Question 3 Comment
		<p>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.</p>

Organization	Yes or No	Question 3 Comment
<p>Response: Thank you for your comments. The SDT agrees with your comment on “the generator is preparing.” We have edited this to state, “the generator is prepared.” The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shutdown. The Standards Committee and the SDT felt that a rapid revision provided greater clarity on the issue raised by the interpretation request. The rapid revision provides a change in the VAR-002 Requirement language, which directly addresses the interpretation request. This approach provides additional clarity to the entities subject to the standard. Flexibility has been given to the Generator Operators to provide documentation to the TOP that allows the GOP to define the start-up, shutdown parameters for any particular generator. In response to industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reasons for having an AVR out of service. M1 has been changed to add clarity. In addition, the Power System Stabilizer is a component of the AVR. If the stabilizer is taken out of service, it will be the decision of the GOP to determine if the AVR can be operated without it; therefore, the SDT believes M1 as written is acceptable. Some industry comments addressed other aspects of VAR 002-1. Comments not within the scope of the rapid revision that you have addressed will be considered by the drafting team established to complete project 2008-01.</p>		
ISO/RTO Standards Review Committee	No	
Alberta Electric System Operator	Affirmative	While the AESO can agree with the proposed standard as written, we suggest the drafting team consider the revisions to R1 recommended by the Standards Review Committee of the ISO/RTO Council.
<p>Response: The SDT thanks you for your comment. In response to industry comments, the SDT has revised the proposed language to add clarity.</p>		
Detroit Edison Company	Affirmative	In the first condition of R1, "procedure" should be replaced by "notification." Same for M1. Condition will likely be caused by physical limitations of equipment and notification should provide TOP with all necessary information without requiring release of internal documents. Definitions of Start-up and Shut-down should be better defined. "...unit is preparing for..." leaves too much room for interpretation. Would suggest using "...unit is released for dispatch by electrical system control by plant operator" or similar. Same for Shut-down, "...unit is released by electrical

Organization	Yes or No	Question 3 Comment
		<p>system control to plant control to come offline" or similar. Footnote #3- not sure why this statement is in the VAR-002 standard. I suggest removing this statement. (Comments by Eizans, Depriest & Kujala)</p>
<p>Response: The SDT thanks you for your comment. In response to industry comments, the SDT has revised the proposed language to add clarity.</p>		
Progress Energy	Yes	<p>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.</p>
<p>Response: Thank you for your comment. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shutdown. In response to industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reasons for having an AVR out of service. Some industry comments addressed other aspects of VAR 002-1. Comments not within the scope of the rapid revision will be considered by the drafting team established to complete project 2008-01.</p>		
Ameren	Yes	<p>We agree that the proposed revision addresses the issue raised for VAR-002, R1 interpretation.</p>
<p>Response: The SDT thanks you for your comment.</p>		
E.ON CLIMATE & RENEWABLES	Yes	<p>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.</p>

Organization	Yes or No	Question 3 Comment
<p>Response: Thank you for your comment. The intent of the rapid revision was to incorporate wording into the standards document to add clarity in the existing approved standard regarding the AVR status during generator start-up and shutdown. In response to industry comments, the SDT has revised the proposed language to add clarity to this issue, while providing operational flexibility for other reasons for having an AVR out of service.</p>		
<p>PPL Electric Utilities and PPL Supply NERC Registered Organizations</p>		<p>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.</p>
<p>Response: The SDT thanks you for your comment. The footnotes have been revised for clarity to include the term “continuously sustainable,” to address your concern.</p>		
<p>Imperial Irrigation District (IID)</p>	<p>Yes</p>	
<p>Northeast Power Coordinating Council</p>	<p>Yes</p>	
<p>Southwest Power Pool Regional Entity</p>	<p>Yes</p>	
<p>Bonneville Power Administration</p>	<p>Yes</p>	
<p>Texas RE</p>	<p>Yes</p>	
<p>LG&E and KU Services</p>	<p>Yes</p>	

Organization	Yes or No	Question 3 Comment
Pacificorp	Yes	
Arizona Public Service Company	Yes	
Salt River Project	Yes	
Xcel Energy	Yes	
NV Energy	Yes	
Independent Electricity System Operator	Yes	
South Carolina Electric and Gas	Yes	
Manitoba Hydro	Yes	
Luminant	Yes	
Pepco Holdings	Yes	
Essential Power, LLC	Yes	
ITC	Yes	
EFH Luminant Energy	Yes	

4. If you have any other comments on the SAR or on the proposed Standard that you have not provided above, please provide them here.

Summary Consideration: Several stakeholders provided suggested enhancements to the language of R1 and R2 to provide additional clarity. The SDT has revised R1 and R2 to address these comments.

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 generator is being operated in start-up¹ or shutdown² mode pursuant to a Real-time communication, or a procedure that was previously provided to the Transmission Operator; or
- That the generator is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown.

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 or shut down with the automatic voltage control off, and no notification of the automatic voltage regulator status is made to the Transmission Operator, 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.

VAR-002-2b Requirement R2 is intrinsically linked to VAR-001-2 – Voltage and Reactive Control, Requirement R4:

R4. Each Transmission Operator shall specify a voltage or Reactive Power schedule 1 at the interconnection between the generator facility and the Transmission Owner's facilities to be maintained by each 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 in automatic voltage control mode (AVR in service and controlling voltage).

The footnote associated with the requirement states: “The voltage schedule is a target voltage to be maintained within a tolerance band during a specified period.” The SDT has revised R2 to change the word “output” to “schedule” to reflect the link between VAR-001-2, R4 and VAR-002-2b, R2. The SDT also added footnote 3 to VAR-002-2b, R2:

R2. Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power ~~output~~ **schedule**³ (within applicable Facility Ratings⁴) as directed by the Transmission Operator. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

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.

Footnote 3 for R2 is a revision of the footnote from VAR-001-2, R4:

³The voltage or Reactive Power schedule is a target value communicated by the Transmission Operator to the Generator Operator establishing a tolerance band within which the target value is to be maintained during a specified period.

The VSLs for R2 were revised to reflect a violation based on the time the Generator Operator operated the generator outside the voltage or Reactive Power schedule range. The lower VSL is for violations of less than 5 minutes. The VSLs are written such that each is incremented 5 minutes until a severe VSL is:

When directed by the Transmission Operator to maintain the generator voltage or reactive power schedule the Generator Operator failed to meet the directed values for more than 15 minutes.

Organization	Yes or No	Question 4 Comment
AEP, AEP Marketing	Negative	Comments are being submitted via electronic form by Thad Ness on behalf of American Electric Power.
Response: Thank you for your comment. Please see response to those comments.		
AEP Service Corp.	Negative	Comments are being submitted via electronic form by Thad Ness on behalf of American Electric Power

Organization	Yes or No	Question 4 Comment
Response: Thank you for your comment. Please see response to those comments.		
Brazos Electric Power Cooperative, Inc.	Negative	Please see the formal comments submitted by ACES Power Marketing.
Response: Thank you for your comment. Please see response to those comments.		
City Utilities of Springfield, Missouri	Negative	City Utilities of Springfield, Missouri supports the comments submitted by the SPP Standards Development group.
Response: Thank you for your comment. Please see response to those comments.		
Dominion Resources Services	Negative	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.
Response: Thank you for your comment. The SDT believes the proposed language, as modified based on industry comments, provides greater clarity and a more clear understanding of the requirements and the measures.		
Dynergy Inc.	Negative	See my previous comments submitted 3/1/12.
Response: Thank you for your comment. Please see response to those comments.		
Electric Power Supply Association	Negative	EPSA concurs with the comments provided by Constellation.

Organization	Yes or No	Question 4 Comment
Response: Thank you for your comment. Please see response to those comments.		
Energy Services, Inc.	Negative	Comments submitted from Entergy.
Response: Thank you for your comment. Please see response to those comments.		
FirstEnergy Corp., FirstEnergy Energy Delivery, FirstEnergy Solutions	Negative	Please see FirstEnergy's comments submitted through the formal comment period.
Response: Thank you for your comment. Please see response to those comments.		
Great River Energy	Negative	Please see the formal comments submitted by the MRO NSRF.
Response: Thank you for your comment. The SDT did not receive the comments from the MRO NSRF.		
MidAmerican Energy Co.	Negative	See the MidAmerican and MRO NSRF comments. It is inappropriate to define "start up" and "shut down". The drafting team cannot appropriately capture all of the varied power plant and combustion turbine designs governing how and when units will automatically switch into and out of Automatic Voltage Regulation. The SDT should not change R1, but should add the following to R3 after the words 30 minutes, "...unless advanced notification including but not limited to operating guides describing the expected status and capability changes was made for any of the following: "
Response: Thank you for your comments. The SDT believes that start-up and shutdown can be defined in a footnote for this standard. The language in R1 does not attempt to define when an AVR is switched into or out of operation as that is the responsibility of the GOP. R1 provides the obligation for the GOP to notify the TOP of when he is operating the generator without the AVR in automatic operation controlling voltage. The SDT did not receive the comments from the MRO NSRF.		
Nebraska Public Power	Negative	NPPD is joining comments submitted by the MRO NSRF (NERC Standards Review

Organization	Yes or No	Question 4 Comment
District		Forum).
Response: Thank you for your comment. The SDT did not receive the comments from the MRO NSRF.		
New York Independent System Operator	Negative	comments have been submitted, we support the change except for the need of the generator to provide procedures to the TOP.
Response: Thank you for your comment. The language inR1 has been modified to include the option of a “Real-time communication” or procedure to the TOP.		
North Carolina Electric Membership Corp.	Negative	Please see the formal comments submitted by ACES Power Marketing
Response: Thank you for your comment. Please see response to those comments.		
Occidental Chemical	Negative	See comment form submitted by Ingleside Cogeneration LP
Response: Thank you for your comment. Please see response to those comments.		
Ohio Edison Company	Negative	Please see FirstEnergy's comments submitted through the formal comment period.
Response: Thank you for your comment. Please see response to those comments.		
Oklahoma Gas and Electric Co.	Negative	See comments by OG&E and SPP
Response: Thank you for your comment. Please see response to those comments.		
Old Dominion Electric Coop.	Negative	See comments supplied by ACES Power Marketing.
Response: Thank you for your comment. Please see response to those comments.		
Omaha Public Power District	Negative	OPPD is supporting MRO (Regional Entity) comments. Please see MRO NSRF

Organization	Yes or No	Question 4 Comment
		comments.
Response: Thank you for your comments. The SDT did not receive the comments from the MRO NSRF.		
PacifiCorp	Negative	<p>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 manner would remove the ambiguity around the meaning of the phrase “and the unit is preparing for continuous operation” which does not provide any additional clarity to the concept of “minimum load.” Adding the clarification of “minimum stable load,” however, defines a specific point in time that is likely to be vary among systems.</p> <p>Comment on Severe VSL for R1: PacifiCorp does not believe that it is 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 should not be treated as 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 document the timely report, should never be raised to the level of a severe violation.</p> <p>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 clerical and single unit errors) should be treated in the VSL table in the “Lower” category, with appropriate escalations towards “severe” as multiple units or habitual or willful non-compliance is 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 provide flexibility to NERC or the Regional Entities (REs) to address actual severe violations that impact the reliability of the Bulk Electric</p>

Organization	Yes or No	Question 4 Comment
		<p>System (BES), and it fails to provide appropriate incentives/disincentives for either the registered entities with robust compliance programs or a compliance history with repeat violations. The registered entity that habitually operates in manual mode or never reports an AVR or PSS outage should not be treated by the RE in the same manner as a conscientious operator who experiences an uncharacteristic reporting lapse (which may occur while attention is rightfully diverted to fixing actual system problems). 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 for repeat offenders and/or those registered entities without a robust VAR-002 compliance program. An escalating VSL table will serve as a better incentive for all registered entities to develop a meaningful VAR-002 compliance regime. The same reasoning should be applied to the VSLs for R3.</p>
<p>Response: Thank you for your comments. Footnote 1 has been modified to include the language “minimum continuously sustainable load and the generator is prepared for continuous operation” to address your concern. The SDT agrees with your concerns on the VSLs, and the VSL table has been modified accordingly.</p>		
<p>PSEG Energy Resources & Trade LLC, PSEG Fossil LLC, Public Service Electric and Gas Co.</p>	<p>Negative</p>	<p>PSEG entities support Constellation’s separately-submitted comments.</p>
<p>Response: Thank you for your comment. Please see response to those comments.</p>		
<p>Southern Company Generation</p>	<p>Negative</p>	<p>See comments submitted by Antonio Grayson on behalf of Southern company.</p>
<p>Response: Thank you for your comment. Please see response to those comments.</p>		
<p>Tennessee Valley Authority</p>	<p>Negative</p>	<p>Please see TVA's comments submitted through the electronic comment form.</p>

Organization	Yes or No	Question 4 Comment
Response: Thank you for your comment. Please see response to those comments.		
U.S. Army Corps of Engineers	Negative	See MRO- NSRF comments
Response: Thank you for your comments. The SDT did not receive the comments from the MRO NSRF.		
Westar Energy	Negative	Agree with the concept, disagree with wording in the Requirement
Westar Energy	Negative	While we agree with the concept, we do not agree with the language in the requirement
Response: Thank you for your comment. The language in Requirement R1 has been modified to provide additional clarity.		
Westar Energy	Negative	Please see Westar Energy comments submitted electronically.
Response: Thank you for your comment. Please see response to those comments.		
Xcel Energy, Inc.	Negative	<p>Q1: 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”</p> <p>Additional Comments: 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.</p>

Organization	Yes or No	Question 4 Comment
<p>Response: The SDT has modified the term “minimum load” to the term “minimum continuously sustainable load” to provide additional clarity. The SDT agrees with Xcel’s comment on the VSL’s for R2, and the VSL table has been modified to address this concern.</p>		
SPP Standards Review Group	No	None
Oklahoma Gas & Electric	No	No additional comments on the SAR or proposed Standard.
Luminant	No	<p>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.</p> <p>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.</p>
<p>Response: Thank you for your comment. R1: Failure to notify the TOP is a violation of the requirement. Since this is a binary type requirement, the VSL guidelines require only a single Severe VSL. R3 is outside the scope of the drafting team.</p>		
We Energies	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

Organization	Yes or No	Question 4 Comment
		<p>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, elimin</p>
<p>Response: Thank you for your comments. The SDT believes that the use of 20 MWs to place the AVR in service is inappropriate. This may be applicable to some units in the We Energies service area, but is inappropriate for a North American standard. The SDT believes the standard, as modified, allows the flexibility for the GOP to operate the generator with the AVR in manual during the start-up and shutdown periods, as long as he has communicated this information to the TOP. That communication can be either in Real-time or by a procedure that is given to the TOP in advance. This minimizes the need for notifications between the GOP and the TOP during the start-up and shutdown periods, as desired by the interpretation request.</p>		
Imperial Irrigation District (IID)	No	
Bonneville Power	No	

Organization	Yes or No	Question 4 Comment
Administration		
Tennessee Valley Authority	No	
Arizona Public Service Company	No	
Salt River Project	No	
Massachusetts Attorney General	No	
Dynergy	No	
NV Energy	No	
Westar Energy	No	
ExxonMobil Research and Engineering	No	
South Carolina Electric and Gas	No	
Duke Energy	No	
Pepco Holdings	No	
Essential Power, LLC	No	
Liberty Electric Power LLC	No	

Organization	Yes or No	Question 4 Comment
Bonneville Power Administration	Affirmative	please refer to BPA’s submitted comments
Response: Thank you for your comment. Please see the response to those comments.		
Electric Reliability Council of Texas, Inc.	Affirmative	ERCOT supports the comments submitted by the IRC SRC.
Response: Thank you for your comment. Please see the response to those comments.		
Manitoba Hydro	Affirmative	Please see comments submitted by Joe Petaski (Manitoba Hydro)
Response: Thank you for your comment. Please see the response to those comments.		
PPL EnergyPlus LLC	Affirmative	Please refer to comments filed by PPL Supply
Response: Thank you for your comment. Please see the response to those comments.		
PPL Generation LLC	Affirmative	Although PPL Generation is voting affirmative, we submitted comments for the Standard Drafting Team's consideration under the group name PPL Electric Utilities and PPL Supply NERC Registered Organizations.
Response: Thank you for your comments. Please see the response to those comments.		
Northeast Power Coordinating Council	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

Organization	Yes or No	Question 4 Comment
		<p>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.</p>
<p>Response: Thank you for your comments. NERC advised the SDT that the use of footnotes was acceptable for the “rapid revision” process. However, it is possible to use these terms in the requirement. The SDT considered this change, but decided to keep the terms as footnotes. (2) Footnote 3 is a technical explanation, and the SDT believes it doesn’t do any harm to leave the footnote in place. Further consideration of removing this footnote can be given during the activities of Project 2008-01.</p>		
<p>Southwest Power Pool Regional Entity</p>	<p>Yes</p>	<p>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.</p>
<p>Response: Thank you for your comment.</p>		
<p>Texas RE</p>	<p>Yes</p>	<p>We support the intent and direction of this revision, but we provide several suggestions and corrections that should be addressed.</p> <ol style="list-style-type: none"> 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,”

Organization	Yes or No	Question 4 Comment
		<p>because the reactive power capability may not be the most limiting factor considered in a Facility Rating methodology.</p> <p>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.</p> <p>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.”</p> <p>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.</p>
<p>Response: Thank you for your comment. (1) We agree, and this is addressed in the 2nd bullet of R1. (2) The SDT team was assigned the task of addressing the generator AVR status during start-up and shutdown; therefore, it was necessary to define these terms. (3) The SDT concurs, and has made the revision to Footnote 3. (4) This is a valid point; however, this is outside the scope of the rapid revision assigned to the SDT. These revisions can be considered under Project 2008-01. (5) This has been corrected, as per your suggestion. (6) The VSL table has been modified for R2 based on timing rather than percentage.</p>		
LG&E and KU Services	Yes	<p>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] o</p>

Organization	Yes or No	Question 4 Comment
		<p>That the unit is being operated in start-up¹ or shutdown² mode pursuant to a procedure previously provided to the Transmission Operator; or. o 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.</p>
<p>Response: Thank you for your comment. The SDT was not originally assigned the task of addressing R2. Since then, we have made some minor changes to this requirement. We feel that it is redundant to add this verbiage to R2 since it is a repetitive to R1.</p>		
FirstEnergy	Yes	<p>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”.</p>
<p>Response: Thank you for your comment. The use of the word “procedure” was intended to mean as the dictionary defines it. “Procedure” is defined as a particular way of accomplishing something, or a series of steps to accomplish something. This can be detailed steps, or merely a few simple steps (i.e., when the generator reaches minimum load, the AVR will be placed into service and the TOP shall be formally informed). The SDT believes that compliance with the modification by the GOP is part of normal operating procedures for all generators. The SDT also added the option of using a “Real-time communication” for the notification to the TOP if “procedures” have not been communicated to the TOP.</p>		
Dominion	Yes	<p>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.</p>

Organization	Yes or No	Question 4 Comment
<p>Response: Thank you for your comment. The SDT agrees with your edit, and has modified the language accordingly.</p>		
<p>ISO/RTO Standards Review Committee</p>	<p>Yes</p>	<p>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] o That the unit is being operated in start-up1 or shutdown2mode pursuant to a procedure previously provided to the Transmission Operator; or. o 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.</p>
<p>Response: Thank you for your comment. The use of the word “procedure” was intended to mean as the dictionary defines it. “Procedure” is defined as a particular way of accomplishing something, or a series of steps to accomplish something. This can be detailed steps, or merely a few simple steps (i.e., when the generator reaches minimum load, the AVR will be placed into service and the TOP shall be formally informed).</p>		
<p>MISO Standards Collaborators</p>	<p>Yes</p>	<p>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.</p>

Organization	Yes or No	Question 4 Comment
<p>Response: Thank you for your comment. The SDT does not agree that R1 requires the GOP to notify the TOP during start-up or shutdown. If the GOP has provided its procedure for AVR operation during start-up or shutdown, then no additional notifications are required.</p>		
<p>ACES Power Marketing Standards Collaborators</p>	<p>Yes</p>	<p>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.</p>
<p>Response: Thank you for your comment. The SDT agrees. The SDT has made modifications to the VSL table to improve the VSLs.</p>		
<p>Progress Energy</p>	<p>Yes</p>	<p>Section B: Requirement R1: Revise bullet points in requirement R1 as under: o That the unit is being operated in start-up¹ or shutdown² mode; or. o 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</p>

Organization	Yes or No	Question 4 Comment
		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.
Response: Thank you for your comments. The SDT has modified the language in R1 to provide greater clarity. Revisions other than those required to address the interpretation request through a rapid revision are outside the scope of this process and can be addressed under Project 2008-01.		
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?
Response: Thank you for your comment. The SDT version contains the word “Operator.”		
Xcel Energy	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.
Response: Thank you for your comment. The VSLs for R2 have been revised to base the severity level on the time duration that the Generator Operator failed to maintain the voltage or Reactive Power schedule.		
Independent Electricity System Operator	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

Organization	Yes or No	Question 4 Comment
		of the Implementation Plan, to the following effect:”, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.”
Response: Thank you for your comment. The SDT has made the revisions, as requested.		
Manitoba Hydro	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.</p> <p>-The data retention requirements are too uncertain for two reasons</p>
Response: Thank you for your comment. The SDT team change to R1 allows the GOP to submit a procedure to the TOP concerning the operation of the AVR. This will reduce the compliance burden. We cannot address your data retention concerns without the specific issues that you have.		
Indiana Municipal Power Agency	Yes	<p>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 used 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.</p>
Response: Thank you for your comment. The NERC Standards Committee felt this was a good candidate for the rapid revision process. Your comment will be forwarded to the NERC Standards Committee. The GOP does have the flexibility to define the star-up or shutdown period for its generating units.		
American Electric Power	Yes	<p>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</p>

Organization	Yes or No	Question 4 Comment
		<p>GOP notifies the TOP otherwise?</p>
<p>Response: Thank you for your comment. The SDT believes R1 provides direction to the GOP to operate with an AVR, while R2 provides direction to the GOP on how to operate the AVR.</p>		
<p>MidAmerican Energy</p>	<p>Yes</p>	<p>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.</p>
<p>Response: Thank you for your comment. Revisions to R3 are outside the scope of this rapid revision process. Those modifications can be considered under Project 2008-01.</p>		
<p>Ameren</p>	<p>Yes</p>	<p>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</p>

Organization	Yes or No	Question 4 Comment
		<p>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] o That the unit is being operated in start-up¹ or shutdown² mode pursuant to a procedure previously provided to the Transmission Operator; or. o That the unit is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown, or o 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.</p>
<p>Response: Thank you for your response. We agree with your concern; however, we feel by including a requirement that the GOP shall provide a procedure to the TOP, we have minimized work for both the GOP and the TOP and improved communications. In some regions, this method of using procedures is already being done.</p>		
EFH Luminant Energy	Yes	<p>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.</p> <p>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</p>

Organization	Yes or No	Question 4 Comment
		<p>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.</p>
<p>Response: Thank you for your comment. R1 calls for the GOP to notify the TOP each time that the generator is not operated in AVR mode. This is a binary requirement and the VSL reflects this. R3 is outside the scope of the rapid revision project.</p>		
<p>American Transmission Company</p>	<p>Yes</p>	<p>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.</p>
<p>Response: Thank you for your comment. The SDT believes that the only way to address the interpretation was to reference when start-up and shutdown begin and end. In this manner, the GOP can provide a procedure to the TOP on the unit status for this operating period.</p>		
<p>Exelon</p>	<p>Yes</p>	<p>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</p>

Organization	Yes or No	Question 4 Comment
		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
<p>Response: Thank you for your comment. The scope of the rapid revision project has been expanded to include R2 and its VSL. The SDT has tied VAR-001-2, R4 with VAR-002-2b, R2 by revising the language of R2 and adding a footnote about the voltage schedule range. Further revisions of VAR-001 and VAR-002 will be handled under Project 2008-01.</p>		
E.ON CLIMATE & RENEWABLES	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.

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		<p>Response: Thank you for your comment. The SAR contains the exact language from the Interpretation Request. The “Detailed Description” section of the SAR contains the following language:</p> <p style="padding-left: 40px;">NERC received a request to interpret this requirement. The requester stated:</p> <p style="padding-left: 80px;">“During startup and shutdown of a generator, it is industry practice to have a generator’s...</p> <p>The Standards Committee determines, in conjunction with drafting teams, if a request for an interpretation of a standard would be better addressed by changing the language in the associated standard. At this point the Standards Committee is paying close attention to the teams that are making modifications to standards using the “Rapid Revision” process. The Standards Committee is still working to fine-tune the details of the rapid revision process. The rapid revision process is not different from the process already described in the Standard Processes Manual, it is the application of the standard development process as an alternative to processing an interpretation that is ‘new’.</p> <p>A drafting team was formed from the inactive Project 2008-01 team to work on this rapid revision. NERC has plans to reactivate Project 2008-01 in 2013 to perform a full review and revision of both VAR standards.</p>
<p>Kansas City Power & Light</p>		<p>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</p>

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		Requirement 1.
<p>Response: Thank you for your comment. The SDT agrees with your comment, and has modified the language in R1 and M1 to read as follows:</p> <p>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]</p> <ul style="list-style-type: none"> • That the generator is being operated in start-up or shutdown mode pursuant to a Real-time communication or a procedure that was previously provided to the Transmission Operator; or • That the generator is not being operated in the automatic voltage control mode for a reason other than start-up or shutdown. <p>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 or shut down with the automatic voltage control off and no notification of the automatic voltage regulator status is made to the Transmission Operator, 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.</p>		
Ingleside Cogeneration LP		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.

Organization	Yes or No	Question 4 Comment
Response: Thank you for your comment. CANs are retired upon approval of standards that address or clarify them.		