

## Comment Report

**Project Name:** 2021-02 Modifications to VAR-002-4.1 | Draft 2  
**Comment Period Start Date:** 5/10/2023  
**Comment Period End Date:** 6/23/2023  
**Associated Ballots:** 2021-02 Modifications to VAR-002-4.1 Implementation Plan AB 2 OT  
2021-02 Modifications to VAR-002-4.1 VAR-002-5 AB 2 ST

There were 57 sets of responses, including comments from approximately 151 different people from approximately 107 companies representing 10 of the Industry Segments as shown in the table on the following pages.

## Questions

- 1. Do you agree the proposed changes in Draft Version II have provided additional clarity to the proposed Reliability Standard VAR-002, following the recommendations for the Enhanced Periodic Review (Project 2016-EPR-02) and NERC Inverter-based Resource Performance Task Force (IRPTF)? If no, please explain and provide recommendations.**
- 2. Do you agree with the revised Purpose statement? If you do not agree, please provide an explanation.**
- 3. The Project 2021-02 SDT proposes a one-year Implementation Plan. Do you agree with the proposed implementation plan timeframe? If you think an alternate timeframe is needed, please propose an alternate implementation plan with detailed explanation.**
- 4. Provide any additional comments on proposed Reliability Standard VAR-002-5 and the technical rationale document for the SDT to consider, if desired.**

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
DTE Energy - Detroit Edison Company	Adrian Raducea	5		DTE Energy - DTE Electric	Karie Barczak	DTE Energy - Detroit Edison Company	3	RF
					Adrian Raducea	DTE Energy - Detroit Edison	5	RF
					patricia ireland	DTE Energy	4	RF
WEC Energy Group, Inc.	Christine Kane	3		WEC Energy Group	Christine Kane	WEC Energy Group	3	RF
					Matthew Beilfuss	WEC Energy Group, Inc.	4	RF
					Clarice Zellmer	WEC Energy Group, Inc.	5	RF
					David Boeshaar	WEC Energy Group, Inc.	6	RF
Jennie Wike	Jennie Wike		WECC	Tacoma Power	Jennie Wike	Tacoma Public Utilities	1,3,4,5,6	WECC
					John Merrell	Tacoma Public Utilities (Tacoma, WA)	1	WECC
					John Nierenberg	Tacoma Public Utilities (Tacoma, WA)	3	WECC
					Hien Ho	Tacoma Public Utilities (Tacoma, WA)	4	WECC
					Terry Gifford	Tacoma Public Utilities (Tacoma, WA)	6	WECC
					Ozan Ferrin	Tacoma Public Utilities (Tacoma, WA)	5	WECC
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,RF,SERC,Texas RE,WECC	ACES Collaborators	Bob Soloman	Hoosier Energy Electric Cooperative	1	RF
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Amber Skillern	East Kentucky Power Cooperative	1	SERC

					Jeremy Johnson	Prairie Power, Inc.	1,3	SERC
					Jolly Hayden	East Texas Electric Cooperative, Inc.	NA - Not Applicable	Texas RE
MRO	Jou Yang	1,2,3,4,5,6	MRO	MRO NSRF	Bobbi Welch	Midcontinent ISO, Inc.	2	MRO
					Chris Bills	City of Independence, Power and Light Department	5	MRO
					Fred Meyer	Algonquin Power Co.	3	MRO
					Christopher Bills	City of Independence Power & Light	3,5	MRO
					Larry Heckert	Alliant Energy Corporation Services, Inc.	4	MRO
					Marc Gomez	Southwestern Power Administration	1	MRO
					Matthew Harward	Southwest Power Pool, Inc. (RTO)	2	MRO
					Bryan Sherrow	Board of Public Utilities	1	MRO
					Terry Harbour	Berkshire Hathaway Energy - MidAmerican Energy Co.	1	MRO
					Terry Harbour	MidAmerican Energy Company	1,3	MRO
					Jamison Cawley	Nebraska Public Power District	1,3,5	MRO
					Seth Shoemaker	Muscatine Power & Water	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO

					Shonda McCain	Omaha Public Power District	6	MRO
					George E Brown	Pattern Operators LP	5	MRO
					George Brown	Acciona Energy USA	5	MRO
					Jaimin Patel	Saskatchewan Power Cooperation	1	MRO
					Kimberly Bentley	Western Area Power Administration	1,6	MRO
					Jay Sethi	Manitoba Hydro	1,3,5,6	MRO
					Michael Ayotte	ITC Holdings	1	MRO
Entergy	Julie Hall	6		Entergy	Oliver Burke	Entergy - Entergy Services, Inc.	1	SERC
					Jamie Prater	Entergy	5	SERC
FirstEnergy - FirstEnergy Corporation	Mark Garza	4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Mark Garza	FirstEnergy-FirstEnergy	1,3,4,5,6	RF
					Stacey Sheehan	FirstEnergy - FirstEnergy Corporation	6	RF
Michael Johnson	Michael Johnson		WECC	PG&E All Segments	Marco Rios	Pacific Gas and Electric Company	1	WECC
					Sandra Ellis	Pacific Gas and Electric Company	3	WECC
					Frank Lee	Pacific Gas and Electric Company	5	WECC
Southern Company - Southern	Pamela Frazier	1,3,5,6	MRO,RF,SERC,Texas RE,WECC	Southern Company	Matt Carden	Southern Company - Southern	1	SERC

Company Services, Inc.						Company Services, Inc.		
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					Jim Howell, Jr.	Southern Company - Southern Company Generation	5	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC RSC	Gerry Dunbar	Northeast Power Coordinating Council	10	NPCC
					Alain Mukama	Hydro One Networks, Inc.	1	NPCC
					Deidre Altobell	Con Edison	1	NPCC
					Jeffrey Streifling	NB Power Corporation	1	NPCC
					Michele Tondalo	United Illuminating Co.	1	NPCC
					Stephanie Ullah-Mazzuca	Orange and Rockland	1	NPCC
					Michael Ridolfino	Central Hudson Gas & Electric Corp.	1	NPCC
					Randy Buswell	Vermont Electric Power Company	1	NPCC
					James Grant	NYISO	2	NPCC
					John Pearson	ISO New England, Inc.	2	NPCC
					Harishkumar Subramani Vijay Kumar	Independent Electricity System Operator	2	NPCC
					Randy MacDonald	New Brunswick	2	NPCC

	Power Corporation		
Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
David Burke	Orange and Rockland	3	NPCC
Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
Salvatore Spagnolo	New York Power Authority	1	NPCC
Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
David Kwan	Ontario Power Generation	4	NPCC
Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	1	NPCC
Glen Smith	Entergy Services	4	NPCC
Sean Cavote	PSEG	4	NPCC
Jason Chandler	Con Edison	5	NPCC
Tracy MacNicoll	Utility Services	5	NPCC
Shivaz Chopra	New York Power Authority	6	NPCC
Vijay Puran	New York State Department of Public Service	6	NPCC
ALAN ADAMSON	New York State Reliability Council	10	NPCC
David Kiguel	Independent	7	NPCC
Joel Charlebois	AESI	7	NPCC
John Hastings	National Grid	1	NPCC

					Michael Jones	National Grid USA	1	NPCC
					Joshua London	Eversource Energy	1	NPCC
Stephen Whaite	Stephen Whaite			ReliabilityFirst Ballot Body Member and Proxies	Lindsey Mannion	ReliabilityFirst	10	RF
					Stephen Whaite	ReliabilityFirst	10	RF
Western Electricity Coordinating Council	Steven Rueckert	10		WECC	Steve Rueckert	WECC	10	WECC
					Phil O'Donnell	WECC	10	WECC
Lower Colorado River Authority	Teresa Krabe	5		LCRA Compliance	Michael Shaw	LCRA	6	Texas RE
					Dixie Wells	LCRA	5	Texas RE
					Teresa Cantwell	LCRA	1	Texas RE
Tim Kelley	Tim Kelley		WECC	SMUD and BANC	Nicole Looney	Sacramento Municipal Utility District	3	WECC
					Charles Norton	Sacramento Municipal Utility District	6	WECC
					Wei Shao	Sacramento Municipal Utility District	1	WECC
					Foung Mua	Sacramento Municipal Utility District	4	WECC
					Nicole Goi	Sacramento Municipal Utility District	5	WECC
					Kevin Smith	Balancing Authority of Northern California	1	WECC



1. Do you agree the proposed changes in Draft Version II have provided additional clarity to the proposed Reliability Standard VAR-002, following the recommendations for the Enhanced Periodic Review (Project 2016-EPR-02) and NERC Inverter-based Resource Performance Task Force (IRPTF)? If no, please explain and provide recommendations.

**Hillary Dobson - Colorado Springs Utilities - 3**

**Answer** No

**Document Name**

**Comment**

Some term changes are unhelpful. For example, changing "generator" to "applicable Facility." §4.2 states that "applicable Facility" equals "generating Facility," which negates the value of making the change.

The insertion of the phrase "a mutually-agreeable criteria," as applied to means of notification in this proposed revision (R3/M3; R4/M4), is confusing. Firstly, "criteria" is a plural and "a" implies singular. Also, "criterion" is defined as "a standard of judgment or criticism; a rule or principle for evaluating or testing something," which would render "shall notify, in a mutually-agreeable criteria" equivalent to "shall notify, in a mutually-agreeable standard(s) of judgement." In what appears to be the intent in the various locations it is used, "mutually-agreeable manner" (or similar - "method"/"means"?) would seem to make much more sense. This is corroborated by the language inserted in M3/M4 stating the intent of "a mutually-agreeable criteria" means selecting a communications methodology, such as emails, voltage schedules, reliability data specification" (or, presumably, another mutually agreed method). In short, "criteria" is the wrong word to use ... the language of the requirements is discussing a means of notification, not the standard by which the voltage control is judged.

C 1.2, Evidence Retention, 1st paragraph, "full-time" should not be hyphenated and, in fact, the words "full time" or "full-time" are not necessary for understanding ("the period since the last audit" is adequate).

Likes 0

Dislikes 0

**Response**

**Donald Lock - Talen Generation, LLC - 5**

**Answer** No

**Document Name**

**Comment**

Talen supports the comments of the NAGF.

Likes 0

Dislikes 0

**Response**

**Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF**

<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
<p>(A) It appears R3, M3, R4 and M4 incorrectly uses - mutually-agreeable “criteria” instead of "format".  Note: Footnote 6 correctly uses the word “format”.  Comment: Suggest changing criteria to “format” in these applications.</p> <p>(B) R4 reads: Each Generator Operator shall notify, in a mutually-agreeable criteria, its associated Transmission Operator within 30 minutes of becoming aware of a change in reactive capability that degrades or restores from degradation “and exceeds the threshold for notification” due to factors other than a status change described specified in Requirement R3. If the capability has been restored within 30 minutes of the Generator Operator becoming aware of such change, then the Generator Operator is not required to notify the Transmission Operator of the change in reactive capability. [Violation Risk Factor:Medium] [Time Horizon: Real-time Operations].  Comment: Please define the magnitude of threshold change needed for notification.</p> <p>(C) R5 requires the GO to provide to its TOP and TP generator step-up and auxiliary transformer data in R5.1 (5.1.1, 5.1.2 and 5.1.3).  Comment: Suggest moving these requirement(s) to a more appropriate location in data collection standards such as TOP, TPL and/or MOD.</p>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Sheila Suurmeier - Black Hills Corporation - 5</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Black Hills Corporation supports the NAGF comments.	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Claudine Bates - Black Hills Corporation - 6</b>	
<b>Answer</b>	No

<b>Document Name</b>	
<b>Comment</b>	
Black Hills Corporation supports the NAGF comments.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Micah Runner - Black Hills Corporation - 1</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Black Hills Corporation supports the NAGF comments.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Rachel Schuldts - Rachel Schuldts On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldts</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Black Hills Corporation supports the NAGF comments.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Sing Tay - Sing Tay On Behalf of: Ruchi Shah, AES - AES Corporation, 5; - Sing Tay</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	

The SAR had initially recommended that VAR-002-4.1 be modified to provide the same clarification to R3 as R4 currently has. The SDT has removed the the bulleted language in R4 - *“Reporting of status or capability changes as stated in Requirement R4 is not applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition.”* AESCE agrees with the recommendations in the SAR and recommends that the clarification in R4 of the current Standard also be applied to R3. It is not productive/worthwhile to require GOPs to notify a TOP about the status change of a voltage controlling device on an individual generating unit.

AESCE also supports NAGF’s comment on these changes.

Likes	0
Dislikes	0

**Response**

**Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter**

**Answer**

No

**Document Name**

**Comment**

FirstEnergy supports EEI’s comments which state:

While EEI supports and appreciates many of the changes to this second draft of VAR-002-5, additional changes are still needed. To address these concerns, we offer the following suggested changes to VAR-002-5:

Applicability Section

4.2. At a minimum, 4.2 should be edited to more clearly articulate that the applicable Facilities are those as defined by approved definition of the Bulk Electric System. However, it would be even clearer if the specific Facilities that are applicable were simply defined in Section 4.2.

Requirement R3 – EEI is concerned that combining of conventional generators and Inverter-based Resources and associated aggregated IBR Plants for Requirement R3 is unintentionally causing confusion. For this reason, the SDT should separate the requirements by resource type. EEI offers the following suggested changes to address R3 concerns:

R3: For conventional resources 3.1 applies, for IBRs and IBR aggregated Facilities 3.2 applies.

3.1 Each GOP shall notify its associated Transmission Operator of a status change on the AVR, power system stabilizer, or alternative voltage controlling device of each of its applicable conventional generating resources within 30 minutes of a change. If the status has been restored within 30 minutes of such change, then the Generator Operator is not required to notify the Transmission Operator of the status change. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

3.2 Each GOP operating of an applicable Inverter-based resource (IBR) shall:

3.2.1 Develop mutually agreeable criteria with the responsible GO for reporting levels of degraded performance from their volt/VAR controller(s) on an applicable IBR or at an aggregate Facility (i.e., IBR plant).

3.2.2 Report within 30 minutes, when an applicable IBR or aggregate Facility (i.e., IBR Plant) reaches a point of degradation (per 3.2.1). If the status has been restored within 30 minutes of such change, then the Generator Operator is not required to notify the Transmission Operator of the status change. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

Requirement R4 – EEI is concerned that combining of conventional generators and Inverter-based Resources and associated aggregated IBR Plants for Requirement R4 is unintentionally causing confusion. For this reason, the SDT should separate the requirements by resource type. EEI offers the following suggested changes to address R4 concerns:

R4: For conventional resources 4.1 applies, for IBRs and IBR aggregated Facilities 4.2 applies.

4.1 Each Generator Operator shall notify its associated Transmission Operator within 30 minutes of becoming aware of a change in reactive capability due to factors other than a status change described in Requirement R3. If the capability has been restored within 30 minutes of the Generator

Operator becoming aware of such change, then the Generator Operator is not required to notify the Transmission Operator of the change in reactive capability. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

4.2 Each GOP operating of an applicable Inverter-based resource (IBR) or aggregated Facilities shall:

4.2.1 Develop mutually agreeable thresholds with the responsible GO that represents degraded performance of the reactive capability of an applicable IBR or aggregate Facility (i.e., IBR plant) due to factors other than those identified in Requirement R3.

4.2.2 Report within 30 minutes, when an applicable IBR or aggregate Facility (i.e., IBR Plant) reaches a point of degradation (per 4.2.1). If the status has been restored within 30 minutes of such change, then the Generator Operator is not required to notify the Transmission Operator of the status change. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

Requirement R5 – In VAR-002-4.1 there was a clarifying footnote that made it clear that “For dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, this requirement” (5.1. and its subparts) “applies only to those transformers that have at least one winding at a voltage of 100kV or above.” This footnote should be retained in VAR-002-5.

Likes 0

Dislikes 0

### Response

**Donna Wood - Tri-State G and T Association, Inc. - 1**

**Answer**

No

**Document Name**

**Comment**

Tri-State Generation and Transmission does not agree with replacing "generator" with "applicable Facility". The term "generator" covers all for present and future and does not need to be changed.

Likes 0

Dislikes 0

### Response

**Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&E All Segments**

<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
PG&E does not agree with the proposed changes and concurs with the input provided by the North American Generator Forum (NAGF) for their input noted in the “General”, “Requirement R3”, and “Requirement R4” sections, specifically the input on “Measure M4”.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>George E Brown - Pattern Operators LP - 5</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
<ul style="list-style-type: none"> <li>• Pattern Energy does not feel the addition of “generating resources and dispersed power producing resources” is necessary addition. Pattern Energy recommends using only the term “generators” as it is broad enough to cover all generators without eliminating any type of technology in the present and future.</li> <li>• Pattern Energy, as general recommendation throughout the standard, is to replace “applicable Facility” with “generators”. This will align terminology with the §3. Purpose terminology.</li> <li>• Pattern Energy supports Midwest Reliability Organization’s NERC Standards Review Forum’s (MRO NSRF) other comments on this question.</li> </ul>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jou Yang - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
<ul style="list-style-type: none"> <li>• The MRO NSRF suggests modifying Facilities under the Applicability section:</li> <li>• Facilities: For the purpose of this standard, the term “applicable Facility” will mean any generating Facility as defined by the NERC Glossary of Terms definition for Bulk Electric System. Where the function exists at the aggregate plant level or the individual generating resource level, the GO has the sole discretion to specify either or both.</li> </ul>	

- Requirement 1. The MRO NSRF does not agree with the addition of 'volt/VAR controller(s)'. The addition of this term further narrows the scope of equipment in which this Standard's requirements are applicable too. The MRO NSRF suggests removing "volt/VAR controller(s)" for the Standard's language. In addition, Requirement 1, footnote 1, is using undefined term "aggregate generating plant". The MRO NSRF suggests the following language for footnote 1, "For dispersed power producing resources identified through inclusion I4 of the Bulk Electric System definition, the automatic voltage regulator (AVR) refers to the voltage & reactive power control system controlling and coordinating plant voltage."
- Requirement 2. Related to Requirement 2, footnote 5, the terms "pull" & "push" can be interpreted to have specific meanings as it relates to voltage control and Reactive Power. The MRO NSRF suggests removing "pull" and replacing it with "capability".
- Requirement 2.1. "notify the Transmission Operator as soon as becoming aware of the condition." Wouldn't this notification be made pursuant to Requirement R3? The MRO NSRF suggests changing the language to "notify the Transmission Operator pursuant to Requirement R3."
- Requirement R3. The MRO NSRF does not agree with the following language "which degrades or restores from degradation its ability to automatically control voltage." The use the word 'degrades' without an actual magnitude or threshold, will be subjective and subject to interpretation. The MRO NSRF does not believe that this additional language was a part of the SAR's scope or any recommendation and suggests removing the language.

Requirement R4. The MRO NSRF does not agree with the following language "that degrades or restores from degradation and exceeds the threshold for notification." The use the word 'degrades' without an actual magnitude or threshold, will be subjective and subject to interpretation. Further, "exceeds the threshold for notification" without a requirement for the TOP to specify the Reactive Power magnitude required for coordination, adds no value. Finally, removing the I4 individual generator exception, the 30-minute reporting could apply to the "plant", the "aggregate plant" or the "individual generating resource". According to the SAR, "NERC Project 2014-01 revised VAR-002 Requirement R4 to clarify that it is not applicable to individual generating units of dispersed power producing resources. The IRPTF did not identify any reason why Requirement R3 should be treated differently than Requirement R4 in this respect and recommended VAR-002-4.1 be modified to make this same clarification to Requirement R3." The MRO NSRF suggests removing the statement "that degrades or restores from degradation and exceeds the threshold for notification" and reinstating the following language "Reporting of a capability changes as stated in Requirement R4 is not applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition." Please note "status" was removed from the statement as recommended by NERC Project 2016-EPR-02 Attachment V Recommendations.

Likes 0

Dislikes 0

### Response

**Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group**

**Answer**

No

**Document Name**

**Comment**

WEC Energy Group supports the MRO NSRF comments.

Likes 0

Dislikes 0

**Response**

**David Jendras Sr - Ameren - Ameren Services - 3**

**Answer**

No

**Document Name**

**Comment**

Ameren would like clarification on what constitutes a threshold of degradation. Also, do we need evidence of correspondence where we determine what the mutually-agreeable criteria is?

Ameren would like clarification on the phrase "functionality change" and the difference between a functionality change and a status change.

Likes 0

Dislikes 0

**Response**

**Richard Jackson - U.S. Bureau of Reclamation - 1,5**

**Answer**

No

**Document Name**

**Comment**

Reclamation does not agree with adding the term "applicable Facility" throughout the standard, including the VSL table. Reclamation recommends that identifying applicable functional entities in Section 4 is sufficient. For example, by changing to this terminology, it leads the reader to believe that the entire facility is controlled by one AVR, which is not true in all cases (applies to footnotes as well). It is well-understood that reliability standard requirements apply to NERC-qualifying Facilities, but it is the functional entity, not individual Facilities, who is responsible for compliance with reliability requirements.

Reclamation does not support the addition of Section 4.2 as it is redundant. Reclamation recommends it is not necessary to state that which is already incorporated by reference, e.g., terms in the NERC Glossary, or the fact that reliability standards apply to BES Elements.

Likes 0

Dislikes 0

**Response**



**Casey Perry - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC**

**Answer** No

**Document Name**

**Comment**

PNM supports EEI Comments related to Section 4.2, the creation of sub requirements in R3 and R4, and the inclusion of footnote related to the BES definition for I4 as it relates to R5.

Likes 0

Dislikes 0

**Response**

**Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company**

**Answer** No

**Document Name**

**Comment**

a. Southern Company Generation does not feel that the addition of “volt/VAR controller(s)” is a necessary addition. The Automatic Voltage Regulator (AVR) is broad enough to cover both terms. We recommend changing all terms for “volt/VAR controller(s)” back to “AVR” or “the AVR”.

b. Requirement R3:

Footnote 6 should be footnote 7. Footnote 6 is not necessary provided the addition of “volt/VAR controller(s)” is removed. For footnote 7, we recommend changing "notification should include the communication method" to "notification should occur using the communication as directed by the TOP."

c. Requirement R4:

Capability that “degrades or restores from degradation and exceeds the threshold for notification” is subjective and is not defined in terms of who decides or how it is decided. This clarification for R4 was accomplished in a previous revision and should not be removed. Changing the wording to "exceeds the threshold for notification" provides no additional clarity to the GOP of when to notify.

Recommend reinstating the VAR-002-4.1 R4 bullet language in and adding it to R3: “Reporting of status or capability changes as stated in Requirement R4 is not applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition.”

d. Requirement R5-R6:

Recommend removing R5 and M5 given that the TOP does not need this information, but is available to the TP through MOD-032.

Likes 0

Dislikes 0

### Response

**Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF**

**Answer**

No

**Document Name**

**Comment**

*The NAGF does not agree with the proposed VAR-002-5 Draft 2 based on the following concerns:*

*a. General:*

*i. The NAGF does not believe the addition of “generating resources and dispersed power producing resources” is necessary addition. The NAGF recommends using only the term “generators” as it is broad enough to cover all generators without eliminating any type of technology in the present and future.*

*b. Requirement 3:*

*i. Recommend replacing “mutually-agreeable criteria” with “mutually-agreeable criteria and format”.*

*}c. Requirement R4:*

*i. The NAGF does not agree with the R4 language “that degrades or restores from degradation and exceeds the threshold for notification.” The use the word ‘degrades’ without defining the actual magnitude or threshold, will be subjective and subject to interpretation. Therefore, the NAGF recommends removing the statement accordingly.*

*ii. The proposed VAR-002-5 Draft 2 standard does not require TOPs to define Requirement 4 Reactive Power capability “threshold for notification” and therefore lacks a key provision to ensure GO/GOPs provide meaningful reactive capability notifications.*

*iii. Recommend reinstating the following VAR-002-4.1 R4 bullet language in VAR-002-5 Draft 2 R4 and adding it to R3: “Reporting of status or capability changes as stated in Requirement R4 is not applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition.”*

*d. Measure M4:*

*i. The NAGF does not agree that the GOP should be responsible for providing “evidence of coordination, as necessary, with the Transmission Operator to identify a mutually-agreeable criteria, such as any of the following: emails, voltage schedule documentation, or reliability data specification.” The TOP should be responsible for providing such evidence as they own/manage the stakeholder process.*

Likes 0

Dislikes 0

## Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

No

Document Name

Comment

While EEI supports and appreciates many of the changes to this second draft of VAR-002-5, additional changes are still needed. To address these concerns, we offer the following suggested changes to VAR-002-5:

### Applicability Section

4.2. At a minimum, 4.2 should be edited to more clearly articulate that the applicable Facilities are those as defined by the currently approved Inclusions in the NERC Glossary of Terms definition of the Bulk Electric System. Alternatively, the Facilities section could be made even clearer if the specific Inclusions from the BES definition (e.g., I2, I3, I4) that are applicable were simply defined in Section 4.2.

**Requirement R3** – EEI is concerned that combining of conventional generators and Inverter-based Resources and associated aggregated IBR Plants for Requirement R3 is unintentionally causing confusion. For this reason, the SDT should separate the requirements by resource type. EEI offers the following suggested changes to address R3 concerns:

**R3:** For conventional resources 3.1 applies, for IBRs and IBR aggregated Facilities 3.2 applies.

3.1 Each Generator Operator shall notify its associated Transmission Operator of a status change on the AVR, power system stabilizer, or alternative voltage controlling device of each of its applicable conventional generating resources within 30 minutes of a change. If the status has been restored within 30 minutes of such change, then the Generator Operator is not required to notify the Transmission Operator of the status change. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

3.2 Each Generator Operator operating an applicable Inverter-based resource (IBR) and aggregate Facility (i.e., IBR plant) shall:

3.2.1 Develop mutually agreeable reporting criteria with the associated Transmission Operator that, at a minimum establish degradation thresholds and methods for reporting degraded performance from volt/VAR controller(s) on an applicable IBR or aggregate Facility level (i.e., IBR plant).

3.2.2 Notify the associated Transmission Operator within 30 minutes, when an applicable IBR or aggregate Facility (i.e., IBR Plant) reaches the mutually agreed upon point of degradation (per 3.2.1). If the status has been restored within 30 minutes of such change, then the Generator Operator is not required to notify the Transmission Operator of the status change. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

**Requirement R4** – EEI is concerned that combining of conventional generators with Inverter-based Resources and associated aggregated IBR Plants for Requirement R4 is unintentionally causing confusion. For this reason, the SDT should separate the requirements by resource type. EEI offers the following suggested changes to address R4 concerns:

**R4:** For conventional resources 4.1 applies, for IBRs and aggregate Facility (i.e., IBR plant) 4.2 applies.

4.1 Each Generator Operator shall notify its associated Transmission Operator within 30 minutes of becoming aware of a change in reactive capability due to factors other than a status change described in Requirement R3. If the capability has been restored within 30 minutes of the Generator Operator becoming aware of such change, then the Generator Operator is not required to notify the Transmission Operator of the change in reactive capability. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

4.2 Each Generator Operator operating an applicable Inverter-based resource (IBR) or aggregated Facilities shall:

4.2.1 Develop mutually agreeable reporting criteria with the associated Transmission Operator that, at a minimum establish degradation thresholds and methods for reporting of degraded performance of the reactive capability of an applicable IBR or aggregate Facility level (i.e., IBR plant) due to factors other than those identified in Requirement R3.

4.2.2 Notify the associated Transmission Operator within 30 minutes, when an applicable IBR or aggregate Facility (i.e., IBR Plant) reaches the mutually agreed to point of degradation (per 4.2.1). If the status has been restored within 30 minutes of such change, then the Generator Operator is not required to notify the Transmission Operator of the status change. [Violation Risk Factor: Medium] [Time Horizon: Real-time Operations]

**Additional Consideration for Requirements R3 & R4:** In addition to the above suggested changes for R3 & R4, we ask that consideration be given to extending the reporting time for degraded performance from 30 minutes to 60 minutes. This proposed change would provide GOPs with a full 30 minutes to resolve any technical problems with their resource's reactive support and voltage control systems, while also providing a full 30 minutes to report, any problem not easily repaired, to the Transmission Operator. The benefit of this changes would be to minimize unnecessary reporting and should not have any reliability impact.

**Requirement R5 –** In VAR-002-4.1 there was a clarifying footnote that made it clear that “For dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, this requirement” (5.1. and its subparts) “applies only to those transformers that have at least one winding at a voltage of 100kV or above.” This footnote should be retained in VAR-002-5.

Likes 0

Dislikes 0

### Response

**Adrian Raducea - DTE Energy - Detroit Edison Company - 5, Group Name DTE Energy - DTE Electric**

**Answer**

No

**Document Name**

**Comment**

R3 does not address changes in capability that are not a degradation as is noted in item 2.5 above. Also Applicable Facilities does not need to state it is applicable to BES facilities. Only useful if standard has specific requirements e.g. MOD-025, MVA

Likes 0

Dislikes 0

### Response

**Alan Kloster - Alan Kloster On Behalf of: Jennifer Flandermeyer, Evergy, 3, 6, 5, 1; Jeremy Harris, Evergy, 3, 6, 5, 1; Kevin Frick, Evergy, 3, 6, 5, 1; Marcus Moor, Evergy, 3, 6, 5, 1; - Alan Kloster**

**Answer**

No

**Document Name**

**Comment**

Evergy supports and incorporates by reference the comments of the Edison Electric Institute (EEI) for question #1.

Likes 0

Dislikes 0

**Response**

**Stephen Whaite - Stephen Whaite On Behalf of: Lindsey Mannion, ReliabilityFirst , 10; - Stephen Whaite, Group Name ReliabilityFirst Ballot Body Member and Proxies**

**Answer**

No

**Document Name**

**Comment**

In comments on Draft 1, RF noted that the “threshold for degradation” described in the footnote under requirements R3 and R4 is something that the TOP currently could specify unilaterally under VAR-001-5 R4, without a requirement to ensure this threshold for degradation is “mutually-agreeable” to the GOP.

In the Draft 1 consideration of comments, the SDT agreed that VAR-001 could be leveraged to gain the reporting criteria, but since VAR-001 does not specifically state that the TOP must provide the GOP a threshold of degradation, VAR-002 should provide the flexibility for the GOP to seek out mutually-agreeable criteria including the threshold.

RF concurs that where the TOP has not previously specified a threshold of degradation, the GOP should have a framework to seek out specification of such criteria from the TOP (either under VAR-002 or under VAR-001). However, RF recommends TOP-established notification criteria, including any notification threshold for status changes, functionality changes, or other changes in reactive capability, be enforceable without regard for whether such criteria are mutually-agreeable (i.e., also agreeable to the GOP). A possible way to implement this recommendation could be to remove “threshold of degradation” from footnote 6 and to add “unless such degradation does not meet a threshold for notification provided by the Transmission Operator,” to the main text of R3 and R4.

Apart from the recommendation above, RF also recommends revisions to address the following items for grammatical clarity in R3 and R4:

- Replace "in a mutually-agreeable criteria" with "in accordance with mutually-agreeable criteria" in R3 and R4
- Replace “that degrades or restores from degradation and exceeds the threshold for notification due to factors other than specified in Requirement R3” with “which degrades or restores from degradation its ability to automatically control voltage due to factors other than specified in Requirement R3” in R4 (to match R3).
- Replace “Mutually-agreeable format” with “Mutually-agreeable criteria” in footnote 6
- Reference footnote 6 in R4 as well as R3.

Likes 0

Dislikes 0

**Response**

**Hillary Creurer - Hillary Creurer On Behalf of: Lori Frisk, Allete - Minnesota Power, Inc., 1; - Hillary Creurer**

**Answer**

No

**Document Name**

**Comment**

Minnesota Power supports EEI's comments.

Likes 0

Dislikes 0

**Response****Constantin Chitescu - Ontario Power Generation Inc. - 5**

**Answer**

No

**Document Name**

**Comment**

Please see additional comments.

Likes 0

Dislikes 0

**Response****Natalie Johnson - Enel Green Power - 5**

**Answer**

No

**Document Name**

**Comment**

Enel North America Inc. (Enel) disagrees with the proposed changes in Draft Version II of VAR-002, specifically in relation to the changes made to Requirement R4. First, the proposed language of “that degrades or restores from degradation and exceeds the threshold for notification” causes concerns for Enel for two reasons. First, the TOP does not have a requirement to specify the Reactive Power magnitude required for coordination and therefore the proposed language would not add to reliability or meet the intended purposes. Secondly, without a defined threshold, the phrase “degrades or restores from degradation” is subjective and would be up for interpretation.

In addition, Enel does not support the removal of the exclusion that states “[R]eporting of status or capability changes as stated in Requirement R4 is not applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition”.

Enel is also reiterating the comments of the proposed language of “degrades or restores from degradation” as used in Requirement R3 is subjective and would be up for interpretation.

Enel also agrees with the MRO NSRF suggested language for Section 4.2 Facilities: “For the purpose of this standard, the term “applicable Facility” will mean any generating Facility as defined by the NERC Glossary of Terms definition for Bulk Electric System. Where the function exists at the aggregate plant level or the individual generating resource level, the GO has the sole discretion to specify either or both.”

Likes 0

Dislikes 0

**Response**

**Daniel Gacek - Exelon - 1**

**Answer** No

**Document Name**

**Comment**

Exelon supports the comments submitted by the EEI.

Likes 0

Dislikes 0

**Response**

**Kinte Whitehead - Exelon - 3**

**Answer** No

**Document Name**

**Comment**

Exelon supports the comments as submitted by EEI.

Likes 0

Dislikes 0

**Response**

**Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators**

**Answer** No

**Document Name**

**Comment**

We appreciate the effort that the SDT put into clarifying which facilities are applicable for this standard; however, we question whether question 4.2 is required at all. Section 4.1 clearly delineates that this standard is applicable to the GO and GOP. Given that both the GO and GOP are already associated with a generating Facility(ies) and that this standard is applicable to all BES Facilities (i.e. there are no specific exemptions for unit size, etc.), we feel that this section is superfluous. For an example see FAC-008-5 Section 4 or MOD-032-1 Section 4.

We also have concerns about R4. We appreciate the attempt to provide additional clarity provided by removing the word “status” and adding the phrase “degrades or restores from degradation”. However, we have issue with the verbiage of this particular Requirement. The wording does not make it clear what has been degraded nor what has been restored from degradation. Furthermore, this change does not satisfy the intent of Project 2016-EPR-02 recommendation 2.3. We recommend using the SDT response identified in the Technical Rationale with a few slight modifications identified below. We believe these changes will meet the intent of 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, and 2.9.

“Requirement R4 – “Each Generator Operator shall notify, in a mutually-agreeable criteria, its associated Transmission Operator within 30 minutes of becoming aware of a change in reactive capability that degrades or restores from degradation its ability to control voltage. If the reactive capability has been restored within 30 minutes of the Generator Operator becoming aware of such change, then the Generator Operator is not required to notify the Transmission Operator.”

Lastly, we do not agree with the SDT choosing to not implement recommendation 14.1. We believe that leaving the Generator Owner solely responsible for providing information on transformers that could be owned by another entity is not a equitable requirement. We recommend that either the TO be added to VAR-002 R5 or an exception be made for those GO’s who do not own the GSU and/or Aux Transformers associated with their generating resource.

Likes 0

Dislikes 0

**Response**

**Jennie Wike - Jennie Wike On Behalf of: John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power**

**Answer** No

**Document Name**

**Comment**

Tacoma Power supports the comments from SRP and EEI. Tacoma Power shared the concern that combining of conventional generators and Inverter-based Resources and associated aggregated IBR Plants is unintentionally causing confusion. For this reason, the SDT should separate the requirements by resource type.

Likes 0

Dislikes 0

**Response**

**Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 1,3,5,6**

**Answer** No

**Document Name**

**Comment**

Likes 0

Dislikes 0



<b>Response</b>	
<b>Thomas Foltz - AEP - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
<p>AEP recommends that R3 and R4 be clarified to instead state “Each Generator Operator, based on a mutually agreeable threshold of degradation, shall notify, as directed, its associated Transmission Operator...”</p> <p>AEP also recommends that footnote 6 be changed to “The communication method (e.g., voice, data, email, etc.)”</p>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Anna Todd - Southern Indiana Gas and Electric Co. - 1,3,5,6 - RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
<p>Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South (SIGE) would recommend similar language changes for R4 that are consistent with those made in R3 surrounding the removal of “becoming aware of a change.”</p>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Alison MacKellar - Constellation - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
<p>Constellation suggests adding to mutually agreeable criteria to state "mutually agreeable criteria and format" to provide clarity.</p>	

Constellation also requests that the addition of the language "degrades or restores from degradation" in Requirement R3 be re-evaluated or removed as it introduces more ambiguity to the requirement. For an AVR it should either be considered functional and able to control voltage or not. Modern AVRs typically have two channels, if one channel fails it could be considered degraded since it has lost redundancy but is still functional.

Alison Mackellar on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

## Response

**Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2**

Answer

Yes

Document Name

[2021-02\\_Modifications\\_to\\_VAR-002\\_Unofficial\\_Comment\\_Form - ERCOT Final.docx](#)

Comment

ERCOT ISO agrees that the proposed changes have provided additional clarity; however, ERCOT ISO believes that the following revisions to Requirements R3 and R4 would further clarify the draft Reliability Standard.

R3: ***When a mutually agreeable threshold of degradation is reached***, each Generator Operator shall ***use a mutually agreeable communication method***<sup>[1]</sup> to notify its associated Transmission Operator of a status or functionality change of applicable AVR, volt/VAR controller(s), power system stabilizer, or alternative voltage controlling device ***that*** degrades or restores from degradation ***in*** its ability to automatically control voltage. Status or functionality change notifications shall be made within 30 minutes of such change. If the status has been restored within 30 minutes, then the Generator Operator is not required to notify the Transmission Operator of the status change.

***[1] Such as voice, automated data transfer, or email.***

R4: Each Generator Operator shall ***use a mutually agreeable communication method***<sup>[1]</sup> to notify its associated Transmission Operator within 30 minutes of becoming aware of a ***degradation or restoration from degradation*** in reactive capability that exceeds the ***mutually agreeable*** threshold for notification due to factors other than ***those*** specified in Requirement R3. If the capability has been restored within 30 minutes of the Generator Operator becoming aware of such change, then the Generator Operator is not required to notify the Transmission Operator of the change in reactive capability.

***[1] Such as voice, automated data transfer, or email.***

For further clarity, a redline of ERCOT ISO's proposed revisions is attached.

Likes 0

Dislikes 0

Response

**Kimberly Turco - Constellation - 6**

**Answer** Yes

**Document Name**

**Comment**

Constellation suggests adding to mutually agreeable criteria to state "mutually agreeable criteria and format" to provide clarity. Constellation also requests that the addition of the language "degrades or restores from degradation" in Requirement R3 be re-evaluated or removed as it introduces more ambiguity to the requirement. For an AVR it should either be considered functional and able to control voltage or not. Modern AVRs typically have two channels, if one channel fails it could be considered degraded since it has lost redundancy but is still functional.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 3 - WECC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jessica Lopez - APS - Arizona Public Service Co. - 3**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Diana Torres - Imperial Irrigation District - 6**

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

**Israel Perez - Israel Perez On Behalf of: Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; Thomas Johnson, Salt River Project, 3, 1, 6, 5; Timothy Singh, Salt River Project, 3, 1, 6, 5; - Israel Perez**

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

**Harishkumar Subramani Vijay Kumar - Independent Electricity System Operator - 2**

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

**Dwanique Spiller - Berkshire Hathaway - NV Energy - 5**

Answer Yes

Document Name

**Comment**

Likes 0

Dislikes 0

**Response****Mike Magruder - Avista - Avista Corporation - 1****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Martin Sidor - NRG - NRG Energy, Inc. - 6****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response**

**Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Teresa Krabe - Lower Colorado River Authority - 5, Group Name LCRA Compliance**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Pedro Juarez, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Ryder Couch, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD and BANC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Gregory Campoli - New York Independent System Operator - 2**

**Answer** Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Rachel Coyne - Texas Reliability Entity, Inc. - 10</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
<p>Texas RE recommends adding definition at the end of the statement in section A 4.4: "...as defined by the Bulk Electric System definition."</p> <p>Texas RE is concerned Requirements R3 and R4 do not explicitly require the dispersed power producing resources to notify the Transmission Operator (TOP) for the status change of voltage control on an individual generating unit. Texas RE recommends adding "applicable Facility" in the requirement language:</p> <p><b>R3.</b> Each Generator Operator shall notify, in a mutually-agreeable criteria<sup>6</sup>, its associated Transmission Operator of a status or functionality change on the of applicable AVR, volt/VAR controller(s), power system stabilizer, or alternative voltage controlling device which degrades or restores from degradation of its ability to automatically control voltage <i>at the applicable Facility</i>. Status or functionality change notifications shall be made within 30 minutes of the such change. If the status has been restored within 30 minutes of such change, then the Generator Operator is not required to notify the Transmission Operator of the status change.</p>	

Absent the reference to the applicable Facility, Texas RE is concerned that it will not be understood that notification to the TOP that a status change in the AVR occurred is required for an individual Facility, such as a wind turbine, rather than a change in status for multiple wind turbines, such as the entire wind farm.

Likes 0

Dislikes 0

**Response**

**Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6**

**Answer**

**Document Name**

**Comment**

See comments submitted by the Edison Electric Institute

Likes 0

Dislikes 0

**Response**



2. Do you agree with the revised Purpose statement? If you do not agree, please provide an explanation.

Jennie Wike - Jennie Wike On Behalf of: John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power

Answer No

Document Name

Comment

Tacoma Power supports the comments from SRP and EEI. Tacoma Power shared the concern that combining of conventional generators and Inverter-based Resources and associated aggregated IBR Plants is unintentionally causing confusion. For this reason, the SDT should separate the requirements by resource type.

Likes 0

Dislikes 0

Response

Natalie Johnson - Enel Green Power - 5

Answer No

Document Name

Comment

Enel North America Inc. does not agree that the modification from “generators” to “generating resources and dispersed power producing resources” was necessary. Since the Functional Entities are defined as ‘Generator Operator’ and ‘Generator Owner’ with no exclusions, the term “generators” is sufficient in the Purpose statement.

Likes 0

Dislikes 0

Response

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer No

Document Name

Comment

OPG does not agree with changing “generators” with “generating resources and dispersed power producing resources”.  
The term “generators” is inclusive for all units that provides energy transformation into electrical energy for delivery to the grid.

The proposed change “generating resources and dispersed power producing resources” triggers specificity to current technology and potential restrictions for future technology.

Likes 0

Dislikes 0

### Response

**Adrian Raducea - DTE Energy - Detroit Edison Company - 5, Group Name DTE Energy - DTE Electric**

**Answer**

No

**Document Name**

**Comment**

Purpose statement somewhat goes against FERC Order 827 for providing reactive power support. FERC Order 827 notes that generating facilities shall maintain 0.95 lead/lag power factor at all power outputs. What if the capability is greater than 827 such as 0.90 or 0.80? Then does the site comply with VAR-002 or limit var support to 827 limits, or do we focus on voltage control and 827 limits as we typically do not have a VAR schedule?

Likes 0

Dislikes 0

### Response

**Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF**

**Answer**

No

**Document Name**

**Comment**

*The NAGF does not feel the addition of “generating resources and dispersed power producing resources” is necessary addition. The NAGF recommends using only the term “generators” as it is broad enough to cover all generators without eliminating any type of technology in the present and future.*

Likes 0

Dislikes 0

### Response

**Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company**

**Answer**

No

**Document Name**

**Comment**

Southern Company Generation does not believe that the addition of “Dispersed power producing resources” is needed. Since dispersed power producing resource are generating resources, the term, “generators” is broad enough for present and future resource technologies.

Likes 0

Dislikes 0

**Response**

**David Jendras Sr - Ameren - Ameren Services - 3**

**Answer**

No

**Document Name**

**Comment**

Ameren would like a definition of dispersed power-producing resources.

Likes 0

Dislikes 0

**Response**

**Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group**

**Answer**

No

**Document Name**

**Comment**

WEC Energy Group supports the MRO NSRF comments.

Likes 0

Dislikes 0

**Response**

**Jou Yang - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF**

**Answer**

No

**Document Name**

**Comment**

The MRO NSRF does not feel the addition of “generating resources and dispersed power producing resources” is necessary addition. The MRO NSRF recommends using only the term “generators” as it is broad enough to cover all generators without eliminating any type of technology in the present and future.

Likes 0

Dislikes 0

### Response

**George E Brown - Pattern Operators LP - 5**

**Answer**

No

**Document Name**

**Comment**

Pattern Energy supports Midwest Reliability Organization’s NERC Standards Review Forum’s (MRO NSRF) comments on this question.

Likes 0

Dislikes 0

### Response

**Israel Perez - Israel Perez On Behalf of: Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; Thomas Johnson, Salt River Project, 3, 1, 6, 5; Timothy Singh, Salt River Project, 3, 1, 6, 5; - Israel Perez**

**Answer**

No

**Document Name**

**Comment**

SRP strongly believes that IBRs should have their own NERC Reliability Standard(s).

Likes 3

Public Utility District No. 1 of Snohomish County, 1, Rhoads Alyssia; Platte River Power Authority, 3, Kiess Richard; Wike Jennie On Behalf of: John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry

Dislikes 0

### Response

**Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt**

**Answer**

No

**Document Name**

**Comment**

Black Hills Corporation supports the NAGF comments.

Likes 0

Dislikes 0

**Response**

**Micah Runner - Black Hills Corporation - 1**

**Answer**

No

**Document Name**

**Comment**

Black Hills Corporation supports the NAGF comments.

Likes 0

Dislikes 0

**Response**

**Claudine Bates - Black Hills Corporation - 6**

**Answer**

No

**Document Name**

**Comment**

Black Hills Corporation supports the NAGF comments.

Likes 0

Dislikes 0

**Response**

**Sheila Suurmeier - Black Hills Corporation - 5**

**Answer**

No

**Document Name**

**Comment**

Black Hills Corporation supports the NAGF comments

Likes 0

Dislikes 0

**Response**

**Donald Lock - Talen Generation, LLC - 5**

**Answer**

No

**Document Name**

**Comment**

Talen supports the comments of the NAGF.

Likes 0

Dislikes 0

**Response**

**Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 1,3,5,6**

**Answer**

No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Kimberly Turco - Constellation - 6**

**Answer**

Yes

**Document Name**

**Comment**

Constellation has no additional comments.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Kinte Whitehead - Exelon - 3**

**Answer** Yes

**Document Name**

**Comment**

Exelon agrees with the revised Purpose statement.

Likes 0

Dislikes 0

**Response**

**Daniel Gacek - Exelon - 1**

**Answer** Yes

**Document Name**

**Comment**

Exelon agrees with the revised Purpose statement.

Likes 0

Dislikes 0

**Response**

**Alison MacKellar - Constellation - 5**

**Answer** Yes

**Document Name**

**Comment**

Constellation has no additional comments.

Alison Mackellar on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable**

**Answer** Yes

**Document Name**

**Comment**

EEI agrees with the revised Purpose statement.

Likes 0

Dislikes 0

**Response**

**Casey Perry - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC**

**Answer** Yes

**Document Name**

**Comment**

PNM is in agreement with the revised purpose statement.

Likes 0

Dislikes 0

**Response**

**Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&E All Segments**

**Answer** Yes

**Document Name**

**Comment**

: PG&E agrees with the proposed changes.

Likes 0

Dislikes 0

**Response**

**Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter**



<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
N/A	
Likes 0	
Dislikes 0	
<b>Response</b>	
Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
None.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Hillary Dobson - Colorado Springs Utilities - 3	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
More words are not automatically better and there seems to be no need for the expansion of the statement from the original (other than capitalizing a defined term). That said, CSU has no objection to the revised language.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
<b>Answer</b>	Yes
<b>Document Name</b>	

**Comment**

Likes 0

Dislikes 0

**Response****Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Gregory Campoli - New York Independent System Operator - 2****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response**

**Hillary Creurer - Hillary Creurer On Behalf of: Lori Frisk, Allete - Minnesota Power, Inc., 1; - Hillary Creurer**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Stephen Whaite - Stephen Whaite On Behalf of: Lindsey Mannion, ReliabilityFirst , 10; - Stephen Whaite, Group Name ReliabilityFirst Ballot Body Member and Proxies**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Rachel Coyne - Texas Reliability Entity, Inc. - 10**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Alan Kloster - Alan Kloster On Behalf of: Jennifer Flandermeyer, Evergy, 3, 6, 5, 1; Jeremy Harris, Evergy, 3, 6, 5, 1; Kevin Frick, Evergy, 3, 6, 5, 1; Marcus Moor, Evergy, 3, 6, 5, 1; - Alan Kloster**

**Answer** Yes

**Document Name**

<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Anna Todd - Southern Indiana Gas and Electric Co. - 1,3,5,6 - RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Fong Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Pedro Juarez, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Ryder Couch, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD and BANC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Teresa Krabe - Lower Colorado River Authority - 5, Group Name LCRA Compliance</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes 0

**Response**

**Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Richard Jackson - U.S. Bureau of Reclamation - 1,5**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Martin Sidor - NRG - NRG Energy, Inc. - 6**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Mike Magruder - Avista - Avista Corporation - 1**

**Answer** Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Dwanique Spiller - Berkshire Hathaway - NV Energy - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Harishkumar Subramani Vijay Kumar - Independent Electricity System Operator - 2</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Donna Wood - Tri-State G and T Association, Inc. - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	

**Response**

**Sing Tay - Sing Tay On Behalf of: Ruchi Shah, AES - AES Corporation, 5; - Sing Tay**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Thomas Foltz - AEP - 5**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Diana Torres - Imperial Irrigation District - 6**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Julie Hall - Entergy - 6, Group Name Entergy**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response****Jessica Lopez - APS - Arizona Public Service Co. - 3****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 3 - WECC****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****James Keele - Entergy - 3****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response**



**Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6**

**Answer**

**Document Name**

**Comment**

See comments submitted by the Edison Electric Institute

Likes 0

Dislikes 0

**Response**

**Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO**

**Answer**

**Document Name**

**Comment**

No comment

Likes 0

Dislikes 0

**Response**

3. The Project 2021-02 SDT proposes a one-year Implementation Plan. Do you agree with the proposed implementation plan timeframe? If you think an alternate timeframe is needed, please propose an alternate implementation plan with detailed explanation.

**Donald Lock - Talen Generation, LLC - 5**

**Answer** No

**Document Name**

**Comment**

Talen supports the comments of the NAGF.

Likes 0

Dislikes 0

**Response**

**Sheila Suurmeier - Black Hills Corporation - 5**

**Answer** No

**Document Name**

**Comment**

Black Hills Corporation supports the NAGF comments

Likes 0

Dislikes 0

**Response**

**Claudine Bates - Black Hills Corporation - 6**

**Answer** No

**Document Name**

**Comment**

Black Hills Corporation supports the NAGF comments.

Likes 0

Dislikes 0

**Response**

**Micah Runner - Black Hills Corporation - 1**

**Answer** No

**Document Name**

**Comment**

Black Hills Corporation supports the NAGF comments.

Likes 0

Dislikes 0

**Response**

**Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt**

**Answer** No

**Document Name**

**Comment**

Black Hills Corporation supports the NAGF comments.

Likes 0

Dislikes 0

**Response**

**Thomas Foltz - AEP - 5**

**Answer** No

**Document Name**

**Comment**

AEP recommends changing from a 12-month implementation period to a 24-month implementation period to allow entities to address the needed communication channels and to verify the data points required for monitoring. The unique challenges associated with IBRs and their remote operation, and the time necessary to determine mutually agreeable criteria for the threshold, would all greatly benefit from an implementation period of 24 months.

Likes 0

Dislikes 0

**Response**

Israel Perez - Israel Perez On Behalf of: Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; Thomas Johnson, Salt River Project, 3, 1, 6, 5; Timothy Singh, Salt River Project, 3, 1, 6, 5; - Israel Perez

Answer No

Document Name

Comment

SRP strongly believes that IBRs should have their own NERC Reliability Standard(s).

Likes 3

Public Utility District No. 1 of Snohomish County, 1, Rhoads Alyssia; Platte River Power Authority, 3, Kiess Richard; Wike Jennie On Behalf of: John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry

Dislikes 0

Response

Sing Tay - Sing Tay On Behalf of: Ruchi Shah, AES - AES Corporation, 5; - Sing Tay

Answer No

Document Name

Comment

AESCE is unable to determine at this stage if a one year-plan to implement the revised Standard including “mutually agreeable criteria and threshold of degradation” is sufficient or not.

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer No

Document Name

Comment

Refer to our response to Question 1.

Likes 0

Dislikes 0

Response

David Jendras Sr - Ameren - Ameren Services - 3

<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
There are too many questions about definitions in this standard for Ameren to agree with the implementation plan.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Richard Jackson - U.S. Bureau of Reclamation - 1,5</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Reclamation recommends a 2-year implementation plan. This will allow sufficient time for entities to develop and implement an appropriate program for compliance or implement necessary changes to existing programs.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Southern Company Generation is unable to determine if a one-year Implementation Plan is sufficient currently.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF</b>	
<b>Answer</b>	No

<b>Document Name</b>	
<b>Comment</b>	
<i>The NAGF is unable to determine if a one-year Implementation Plan is sufficient.</i>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Constantin Chitescu - Ontario Power Generation Inc. - 5</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Implementation plan acceptance is a function of proposed standard final acceptance. This standard has available valuable revisions comments that have not been implemented.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 1,3,5,6</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jennie Wike - Jennie Wike On Behalf of: John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	

Likes 0

Dislikes 0

**Response**

**Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF**

**Answer**

Yes

**Document Name**

**Comment**

None.

Likes 0

Dislikes 0

**Response**

**Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&E All Segments**

**Answer**

Yes

**Document Name**

**Comment**

PG&E agrees with the proposed 1 year Implementation Plan.

Likes 0

Dislikes 0

**Response**

**George E Brown - Pattern Operators LP - 5**

**Answer**

Yes

**Document Name**

**Comment**

No comments.

Likes 0

Dislikes 0

**Response**

**Jou Yang - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF**

**Answer**

Yes

**Document Name**

**Comment**

No comments

Likes 0

Dislikes 0

**Response**

**Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group**

**Answer**

Yes

**Document Name**

**Comment**

WEC Energy Group supports the MRO NSRF comments.

Likes 0

Dislikes 0

**Response**

**Casey Perry - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC**

**Answer**

Yes

**Document Name**

**Comment**

PNM supports the one year implementation plan.

Likes 0

Dislikes 0

**Response**



**Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable**

**Answer** Yes

**Document Name**

**Comment**

EEl supports the 1 year implementation plan.

Likes 0

Dislikes 0

**Response**

**Alison MacKellar - Constellation - 5**

**Answer** Yes

**Document Name**

**Comment**

Constellation has no additional comments.

Alison Mackellar on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Daniel Gacek - Exelon - 1**

**Answer** Yes

**Document Name**

**Comment**

Exelon supports the 1 year implementation plan

Likes 0

Dislikes 0

**Response**

**Kinte Whitehead - Exelon - 3****Answer** Yes**Document Name****Comment**

Exelon supports the 1-year implementation plan.

Likes 0

Dislikes 0

**Response****Kimberly Turco - Constellation - 6****Answer** Yes**Document Name****Comment**

Constellation has no additional comments.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response****James Keele - Entergy - 3****Answer** Yes**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 3 - WECC****Answer** Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jessica Lopez - APS - Arizona Public Service Co. - 3</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Julie Hall - Entergy - 6, Group Name Entergy</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Hillary Dobson - Colorado Springs Utilities - 3</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	

**Response**

**Diana Torres - Imperial Irrigation District - 6**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Donna Wood - Tri-State G and T Association, Inc. - 1**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Harishkumar Subramani Vijay Kumar - Independent Electricity System Operator - 2**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Dwanique Spiller - Berkshire Hathaway - NV Energy - 5**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response****Mike Magruder - Avista - Avista Corporation - 1****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Martin Sidor - NRG - NRG Energy, Inc. - 6****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response**

**Teresa Krabe - Lower Colorado River Authority - 5, Group Name LCRA Compliance**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Pedro Juarez, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Ryder Couch, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD and BANC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Anna Todd - Southern Indiana Gas and Electric Co. - 1,3,5,6 - RF**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Adrian Raducea - DTE Energy - Detroit Edison Company - 5, Group Name DTE Energy - DTE Electric**

**Answer** Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Alan Kloster - Alan Kloster On Behalf of: Jennifer Flandermeyer, Evergy, 3, 6, 5, 1; Jeremy Harris, Evergy, 3, 6, 5, 1; Kevin Frick, Evergy, 3, 6, 5, 1; Marcus Moor, Evergy, 3, 6, 5, 1; - Alan Kloster</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Rachel Coyne - Texas Reliability Entity, Inc. - 10</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Hillary Creurer - Hillary Creurer On Behalf of: Lori Frisk, Allete - Minnesota Power, Inc., 1; - Hillary Creurer</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes 0

**Response**

**Natalie Johnson - Enel Green Power - 5**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Gregory Campoli - New York Independent System Operator - 2**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2**

**Answer**

Yes



<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
No Comment on the implementation plan. WECC leaves that to the entities than need to implement.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
See comments submitted by the Edison Electric Institute	

Likes 0

Dislikes 0

**Response**

4. Provide any additional comments on proposed Reliability Standard VAR-002-5 and the technical rationale document for the SDT to consider, if desired.

**Kimberly Turco - Constellation - 6**

**Answer**

**Document Name**

**Comment**

Constellation agrees the scope of the SAR is addressed but makes the suggestion to evaluate removing R5 and R6 from VAR-002 as these requirements are now addressed through other NERC Standards such as MOD-026, MOD-032, PRC-019 and therefore duplicative to have in VAR-002.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6**

**Answer**

**Document Name**

**Comment**

See comments submitted by the Edison Electric Institute

Likes 0

Dislikes 0

**Response**

**Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators**

**Answer**

**Document Name**

**Comment**

Thank you for the opportunity to comment.

Likes 0

Dislikes 0

<b>Response</b>	
<b>Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
As detailed in the response to Q1, ERCOT ISO believes that additional revisions to Requirements R3 and R4 would further clarify the draft Reliability Standard.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
<p>In Requirements R3 and R4, the change from “mutually-agreeable format” to “mutually-agreeable criteria” was not matched in the referenced footnote 6, which still uses “mutually-agreeable format”. We are concerned that the number of Transmission Operators to Generator Operators across the ERO is primarily a one-to-many relationship for each Transmission Operator Area. As written, each Generator Operator would need to have evidence that it established a mutually-agreeable criteria with the appropriate Transmission Operator and adhered to the mutually-agreeable criteria. While we would expect registered Transmission Operators to cooperate in this regard, they have no corresponding requirement to do so in either VAR-002 or VAR-001. A more efficient approach might be for each Transmission Operator to incorporate this “mutually-agreeable criteria” for voltage support awareness (the preferred communication method and degradation threshold trigger) into their data and information specifications covered by TOP-003 (currently open for revision under Project 2021-06).</p> <p>The revised Facilities section (section 4.2) states that “...“applicable Facility” will mean any generating Facility as defined by the Bulk Electric System”, but is a “generating Facility” actually defined in the BES definition?</p>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Alison MacKellar - Constellation - 5</b>	
<b>Answer</b>	
<b>Document Name</b>	

## Comment

Constellation agrees the scope of the SAR is addressed but makes the suggestion to evaluate removing R5 and R6 from VAR-002 as these requirements are now addressed through other NERC Standards such as MOD-026, MOD-032, PRC-019 and therefore duplicative to have in VAR-002.

Alison Mackellar on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

## Response

**Constantin Chitescu - Ontario Power Generation Inc. - 5**

**Answer**

**Document Name**

## Comment

OPG supports NPCC Regional Standards Committee's comments and has the following additional comments:

**Please provide clarification regarding the difference between Status and Functionality.**

In the Summary of "Technical Rationale for Reliability Standard VAR-002-5 - Generator Operation for Maintaining Network Voltage Schedule" it is stated that:

Requirement R3 – Added “functionality” for computing functions or range of functions in a Technical Rationale for Reliability Standard VAR-002-5 NERC Project 2021-02 Modifications to VAR-002-4.1 October 2022 3 control system, such as the Power System Stabilizers or aggregated volt/VAR controller (**EPR Attachment 5 Recommendation 14.1**).

However the Periodic Review Recommendations: VAR-002-4 – Generator Operation for Maintaining Network Voltage Schedules, Attachment 5 has the following **unrelated** recommendation: "Recommendation 14.1 - 14.1. Requirement R5, does not identify the Transmission Owner (TO) for cases where the TO owns the generator step-up transformer. Revise Requirement R6 to require the TO to communicate settings to the Transmission Operator"

On the other hand Recommendation 14.2 talks about: "14.2. Requirement R3 require the Generator Operator to notify the Transmission Operator of power system stabilizer (PSS) unavailability. The operational requirements for initial state of PSS (on/off) clarity need to be assessed for inclusion within the VAR suite of standards (including expectations for startup, shutdown, or testing mode). Consider whether new requirements or alternative guidance is needed to identify the expected initial state for a PSS."

The Project 2021-02 SDT agreed that the operational requirements for initial state of PSS (on/off) clarity was needed for expectations on startup, shutdown, or testing mode. To clarify notification for PSS status change, the Project 2021-02 SDT proposes to add language of functionality changes that degrade or restore its ability to automatically control voltage.

**Degraded PSS Functionality is not defined such that not to create noncompliance controversy, since there is no associated degradation threshold.**

If the intent of this requirement is the notification related to status change for Volt/VAR controlling equipment then the status change is clear (ON or OFF). The potential misunderstanding is associated with the implied threshold (not specified) for the **functionality** change. Suggestion is made to remove word "functionality " which is related to the specific design intent and application (i.e. Grid condition at that specific moment) and stick to "status change" for Requirement R3.

**Functionality** change appears to be more suited to be covered by the capability change.

Likes 0

Dislikes 0

### Response

**Stephen Whaite - Stephen Whaite On Behalf of: Lindsey Mannion, ReliabilityFirst , 10; - Stephen Whaite, Group Name ReliabilityFirst** Ballot Body Member and Proxies

**Answer**

**Document Name**

### Comment

In comments on Draft 1, RF noted that “shall” had been replaced by “will” in the proposed language of the measures. RF also noted that while the measures of NERC Reliability Standards are not part of the FERC-approved enforceable language, RF recommended against a one-off deviation from established conventions.

In the Draft 1 consideration of comments, the SDT indicated that for consistency, the Measures would be reverted to “shall” statements. RF appreciates the SDT’s response and efforts to make these changes, and RF notes that many of the “wills” previously included in the Measures have been changed back to “shall”.

However, RF notes that some “will have/maintain/provide evidence” statements remain in Measures M1, M2, and M4 and recommends, for the sake of internal consistency and alignment with established NERC standard conventions, that these remaining statements also be revised to “shall” statements.

Likes 0

Dislikes 0

### Response

**Rachel Coyne - Texas Reliability Entity, Inc. - 10**

**Answer**

**Document Name**

### Comment

Texas RE commends consistent use of the term “applicable Facility” in Requirement R2. Texas RE recommends the following revisions:

- Revise “within each generator Facilities capabilities” to “within each applicable Facility’s capabilities”.
- In Requirement Part 2.1, revise “or the generator” to “applicable Facility”.
- Also in Requirement Part 2.1, revise “control the generator reactive output” to “control the applicable Facility reactive output”.
- In footnote 5, revise “Generating Facility” to “applicable Facility.”

In Requirement 2.2, Texas RE recommends adding Reactive Power in front of “schedule” to be consistent.

Texas RE noticed that Measure M2 states “the Generator Owner will monitor the voltage...” yet there is no explicit requirement for the Generator Owner to monitor voltage. Texas RE agrees this is a best practice and recommends it be included in the requirement language, rather than just the measure.

In Measure M4, “reliability data specification” is not defined. Texas RE recommends using the term “data specification” instead.

Likes 0

Dislikes 0

**Response**

**Alan Kloster - Alan Kloster On Behalf of: Jennifer Flandermeyer, Evergy, 3, 6, 5, 1; Jeremy Harris, Evergy, 3, 6, 5, 1; Kevin Frick, Evergy, 3, 6, 5, 1; Marcus Moor, Evergy, 3, 6, 5, 1; - Alan Kloster**

**Answer**

**Document Name**

**Comment**

Evergy supports and incorporates by reference the comments of the MRO NSRF for question #4.

Likes 0

Dislikes 0

**Response**

**Anna Todd - Southern Indiana Gas and Electric Co. - 1,3,5,6 - RF**

**Answer**

**Document Name**

**Comment**

As stated in response to question 1, SIGE would recommend similar language changes for R4 that are consistent with those made in R3 surrounding the removal of “becoming aware of a change.”

Likes 0

Dislikes 0

**Response**

**Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC**

**Answer**

**Document Name****Comment**

WECC has a slight concern with the use of the words "mutually agreeable" when the requirement only applies to one of the entities that has to agree. In R3 and R4, the GOP shall notify its TOP, in a "mutually agreeable format."... What if the TOP does not agree to the format. This leaves the GOP hanging with no way to meet the requirement. WECC suggests that the entity responsible should be able to specify the format that they need the data.

Likes 0

Dislikes 0

**Response**

**Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF**

**Answer****Document Name****Comment**

*The NAGF has no additional comments.*

Likes 0

Dislikes 0

**Response**

**Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company**

**Answer****Document Name****Comment**

This revised draft of VAR-002-5 does not specifically address the main purpose identified in the SAR which is to identify if the GOP must notify the TOP of the loss of a single inverter at a solar facility within R3.

“Clarify VAR-002-4.1 Requirement R3 in regards to whether the GOP of a dispersed power resource must notify its associated TOP of a status change of a voltage controlling device on an individual generating unit, for example if a single inverter goes offline in a solar PV resource.”

Likes 0

Dislikes 0

**Response**



**Casey Perry - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC**

**Answer**

**Document Name**

**Comment**

None

Likes 0

Dislikes 0

**Response**

**Richard Jackson - U.S. Bureau of Reclamation - 1,5**

**Answer**

**Document Name**

**Comment**

- Do not agree with the change of mutually agreeable format to mutually agreeable criteria. For Generator Owners, this is not an applicable statement as the Transmission Owner will set criteria and the Generator Owner should meet it, and communicate in an agreed upon format. Change criteria back to format.
- Requirements R3 and R4 and footnotes 6 and 7 are unclear regarding “mutually-agreeable criteria.” Reclamation recommends the drafting team clarify these items by incorporating wording from existing approved requirements, e.g., IRO-010-4 R3 and TOP-003-5 R5. Criteria. Also recommend reinstating the removed bullets from R4.
- Reclamation also recommends VAR-002 state all required information in a requirement, not in a footnote, i.e., the information in footnotes 6 and 7 should be stated in R3. Additionally, Reclamation recommends the drafting team confirm the proposed footnote numbering, as the information in footnote 7 does not seem to align with the placement of footnote 7 with “transformers” in Requirement R5.
- Reclamation recommends clarifying Requirement R4 by adding, “For changes in reactive capability lasting longer than 30 minutes,” to the beginning of the requirement.
- Reclamation recommends Requirement R5 can be consolidated and clarified as follows: “For generator step-up and auxiliary transformers with primary voltages equal to or greater than the generator terminal voltage, each Generator Owner shall provide the following to its associated Transmission Operator and Transmission Planner within 30 calendar days of a request:
  - Tap settings.
  - Available tap ranges.
  - Impedance data.”
- Reclamation recommends removing the term “generator owned” from Requirement R6 as it is colloquial and confusing, i.e., a generator does not own anything. Reclamation recommends Requirement R6 can be clarified by rewording as follows: “For changes to step-up transformer taps owned by the Generator Owner, the Generator Owner shall ensure...”
- Reclamation recommends that dispersed power resources become a defined term in the NERC Glossary identifying what they are and what regulations they fall under. This comment applies to multiple standards.

Likes 0

Dislikes 0

**Response**

**Nicolas Turcotte - Hydro-Quebec (HQ) - 1**

**Answer**

**Document Name**

**Comment**

“Transmission System” was capitalized following comments received in Draft 1, however the terms were only capitalized in the VSL table and not in R1. Suggest capitalizing the terms in R1 as well.

Likes 0

Dislikes 0

**Response**

**Junji Yamaguchi - Hydro-Quebec (HQ) - 5**

**Answer**

**Document Name**

**Comment**

“Transmission System” was capitalized following comments received in Draft 1, however the terms were only capitalized in the VSL table and not in R1. Suggest capitalizing the terms in R1 as well.

In R2.1, proposed text: ... if no other method of control capability is limitedis available, notify the Transmission Operator as soon as becoming aware of the condition.

Likes 0

Dislikes 0

**Response**

**Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO**

**Answer**

**Document Name**

**Comment**

Manitoba Hydro would like the “mutually-agreeable format” wording eliminated from R3 and R4. Manitoba Hydro doesn’t think it is necessary to include this wording in the standard. It is implicit that communications will be mutually agreeable. This wording adds a requirement to update a lot of our standards. The thresholds for communication are already detailed.

Likes 0

Dislikes 0

**Response**

**Christine Kane - WEC Energy Group, Inc. - 3, Group Name** WEC Energy Group

**Answer**

**Document Name**

**Comment**

WEC Energy Group appreciates the opportunity to comment. The SDT should consider revising the language in R3 to reduce unnecessary reporting. In order to meet the 30 minute reporting requirement, there are times that the GOP will start the reporting process, and then restore the status of the voltage controlling device within the first 30 minutes, thereby negating the reporting requirement.

Likes 0

Dislikes 0

**Response**

**Jou Yang - MRO - 1,2,3,4,5,6 - MRO, Group Name** MRO NSRF

**Answer**

**Document Name**

**Comment**

The MRO NSRF would like to point out to the SDT that the technical rationale document needs to be reviewed thoroughly. For example, “reactive power” is capitalized in some places, but not in others. “Generation” is capitalized, but not defined in the NERC Glossary of Terms Used in NERC Reliability Standards. Also, terminology used in this document needs to align with Reliability Standard so that a one-to-one relationship exists.

Likes 0

Dislikes 0

**Response**

**Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 1,3,5,6**

**Answer**

**Document Name**

**Comment**

Agree with MRO NSRF

Likes 0

Dislikes 0

**Response**

**George E Brown - Pattern Operators LP - 5**

**Answer**

**Document Name**

**Comment**

Pattern Energy supports Midwest Reliability Organization's NERC Standards Review Forum's (MRO NSRF) comments on this question.

Likes 0

Dislikes 0

**Response**

**Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&E All Segments**

**Answer**

**Document Name**

**Comment**

PG&E has the following input that should be addressed by the SDT:

The revision adds "in a mutually agreeable criteria" to R3, R4, and "Mutually-agreeable format" in Footnote 6 to include "communication method" and "threshold of degradation". While it provides communication examples, there is no direction on how to develop or who is responsible for developing and determining the threshold criteria.

Likes 0

Dislikes 0

**Response**

**Donna Wood - Tri-State G and T Association, Inc. - 1**

**Answer**

**Document Name**

**Comment**

N/A

Likes 0

Dislikes 0

**Response**

**Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter**

**Answer**

**Document Name**

**Comment**

None.

Likes 0

Dislikes 0

**Response**

**Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC**

**Answer**

**Document Name**

**Comment**

“Transmission System” was capitalized following comments received in Draft 1, however, the terms were only capitalized in the VSL table and not in R1. Suggest capitalizing the terms in R1 as well.

Likes 0

Dislikes 0

**Response**

**Sing Tay - Sing Tay On Behalf of: Ruchi Shah, AES - AES Corporation, 5; - Sing Tay**

**Answer**

**Document Name**

**Comment**

In footnote 1 – Please clarify what aggregate generating plant means. Is it referring to multiple inverters aggregating to a generating plant or is it referring to multiple IBR sites aggregating at a collector substation?

In footnote 2 and 3 – AESCE recommends that NERC SDT considers adding some language which clarifies that footnote 2 and 3 do not apply to wind, solar and BESS sites. These sites do not have a minimum continuous sustainable Load since they are intermittent resources and depend on external factors.

Likes 0

Dislikes 0

**Response**

**Diana Torres - Imperial Irrigation District - 6**

**Answer**

**Document Name**

**Comment**

None

Likes 0

Dislikes 0

**Response**

**Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF**

**Answer**

**Document Name**

**Comment**

None.

Likes 0

Dislikes 0

**Response**

**Donald Lock - Talen Generation, LLC - 5**

**Answer**

**Document Name**

**Comment**

No additional comments

Likes 0

Dislikes 0

**Response**

**Jessica Lopez - APS - Arizona Public Service Co. - 3**

**Answer**

**Document Name**

**Comment**

SDT consider revising Section 4.2:

Currently written: “ Facilities: For the purpose of this standard, “applicable Facility” will mean any *generating Facility* as defined by the Bulk Electric System.

Consider rewording to: “Facilities: For the purpose of this standard, “applicable Facility” will mean any **generation** defined by the Bulk Electric System.”

Likes 0

Dislikes 0

**Response**