

Consideration of Comments on the Regional Reliability Standard MOD-025-RFC-01 — Verification and Data Reporting of Generator Gross and Net Reactive Power Capability

The Regional Reliability Standards Working Group thanks all commenters who submitted comments on the proposed regional standard MOD-025-RFC-01— Verification and Data Reporting of Generator Gross and Net Reactive Power Capability. This standard was posted for a 45-day public comment period from February 26, 2009 through April 13, 2009. The stakeholders were asked to provide feedback on the standards through a special Electronic Comment Form. There were 8 sets of comments, including comments from 14 different people representing 5 of the 10 Industry Segments as shown in the table on the following pages.

http://www.nerc.com/filez/regional_standards/regional_reliability_standards_under_development.html

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Gerry Adamski, at 609-452-8060 or at gerry.adamski@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.¹

¹ The appeals process is in the Reliability Standards Development Procedures: <http://www.nerc.com/standards/newstandardsprocess.html>.

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The Industry Segments are:

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

		Commenter	Organization	Industry Segment										
				1	2	3	4	5	6	7	8	9	10	
1.	Group	Jalal Babik	Dominion Resources Inc.			X		X	X					
		Additional Member	Additional Organization	Region						Segment Selection				
1.		Louis Slade		SERC						6				
2.		Mike Garton		NPCC						5				
2.	Group	Sam Ciccone	FirstEnergy	X		X	X	X	X					
		Additional Member	Additional Organization	Region						Segment Selection				
1.		Doug Hohlbaugh	FE	RFC						1, 3, 4, 5, 6				
2.		Dick Kovacs	FE	RFC						1				
3.		Art Buanno	FE	RFC						1				
4.		Ed Baznik	FE	RFC						1				
3.	Individual	Jianmei Chai	Consumers Energy Company			X	X	X						
4.	Individual	Laura Lee	Duke Energy	X		X		X	X					

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		Commenter	Organization	Industry Segment										
				1	2	3	4	5	6	7	8	9	10	
5.	Individual	James H. Sorrels, Jr.	AEP	X		X		X	X					
6.	Individual	Chris Norton	American Municipal Power - Ohio, Inc.				X							
7.	Individual	Howard Rulf	We Energies			X	X	X						
8.	Individual	Scott Berry	Indiana Municipal Power Agency				X							

1. Was the proposed standard developed in a fair and open process, using the associated Regional Reliability Standards Development Procedure?

Summary Consideration:

Organization	Yes or No	Question 1 Comment
Dominion Resources Inc.	No	<p>While we agree that the standard was developed in a fair and open process, we don't agree that it followed the regional standards development process. This regional standard has not yet been approved by the RFC board as shown in of the ReliabilityFirst Corporation Reliability Standards Development Procedure (step 7). And, while we are not opposed to the RFC SDT being proactive applying the NERC Rules and Procedure, Section 312 4.2 which allows for regional standards to be posted at the NERC level concurrent with similar steps in the regional entity's regional standard development process we suggest that the regional process be modified to indicate that this 'option' may be used.</p>
<p>Response: ReliabilityFirst and NERC had decided to post the proposed MOD-025-RFC-01 standard at the NERC level (45-Day posting) to be proactive and to allow the Standard Drafting Team (SDT) the ability to review and respond to the comments prior to any potential Category Ballot. Per the ReliabilityFirst Standards Procedure, no changes can be made to any proposed standard once it goes to through Category Ballot. If the proposed standard is posted at the NERC level after industry and subsequent ReliabilityFirst Board approval, the SDT does not have the capability of modifying such standard regardless of any comments received at the NERC level. With that said, NERC still has the ability to post such regional standards for another NERC comment period after ReliabilityFirst Board approval.</p> <p>Also, this posting is consistent with the NERC Rules of Procedure (Section 312 4.2) which states “NERC may publicly notice and post for comment the proposed regional reliability standard concurrent with similar steps in the regional entity’s reliability standards development process. There is nothing precluding the NERC 45-Day comment posting period prior to completion of the RFC Standards Development Procedure. This posting is not a substitute for the final NERC/FERC standard submittal. This NERC 45-Day comment posting was an informational purposes and not for approval purposes.</p>		
FirstEnergy	Yes	
Consumers Energy Company	Yes	The Standard was developed in a fair and open process, however comments provided to the drafting team were not adequately resolved.
<p>Response: the SDT believes all comments are adequately responded to.</p>		
Duke Energy	Yes	

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Organization	Yes or No	Question 1 Comment
AEP	Yes	
American Municipal Power - Ohio, Inc.	No	The comments to NERC on proposed regional reliability standards should not be limited to non-technical comments.
<p>Response: The scope of the NERC commenting period is outside the control of this SDT. Technical comments should be vetted through the Regional commenting periods and not the at the NERC level. All RFC standard comment periods are open and publicly noted. Anyone is entitled to provide comments via the Regional comment periods (there is no restriction for commenters to be within the RFC region).</p>		
We Energies	No	<p>The email notice from NERC for comments and this questionnaire state that this posting is for process related comments only and that this posting is part of the NERC approval process. By the RFC Reliability Standards Development Procedure a standard is submitted to NERC for approval only after RFC Board approval. Since RFC Board approval has not occurred, this standard should not have been submitted to NERC for approval. Our expectation is that this standard will be posted a second time at NERC for process related comments and approval. Since the RFC process is incomplete, industry is unable to comment at this time on the entire RFC Standards Development process for this standard. A single posting at NERC would be a de facto prohibition on industry from commenting on the complete RFC Standards Development process and would make this process unfair.</p>
<p>Response: ReliabilityFirst and NERC had decided to post the proposed MOD-025-RFC-01 standard at the NERC level (45-Day posting) to be proactive and to allow the Standard Drafting Team (SDT) the ability to review and respond to the comments prior to any potential Category Ballot. Per the ReliabilityFirst Standards Procedure, no changes can be made to any proposed standard once it goes to through Category Ballot. If the proposed standard is posted at the NERC level after industry and subsequent ReliabilityFirst Board approval, the SDT does not have the capability of modifying such standard regardless of any comments received at the NERC level. With that said, NERC still has the ability to post such regional standards for another NERC comment period after ReliabilityFirst Board approval.</p> <p>Also, this posting is consistent with the NERC Rules of Procedure (Section 312 4.2) which states “NERC may publicly notice and post for comment the proposed regional reliability standard concurrent with similar steps in the regional entity’s reliability standards development process. There is nothing precluding the NERC 45-Day comment posting period prior to completion of the RFC Standards Development Procedure. This posting is not a substitute for the final NERC/FERC standard submittal. This NERC 45-Day comment posting was an informational purposes and not for approval purposes.</p>		
Indiana Municipal Power	No	The NERC commenting process for this regional standard is unfair, because it limits comments to just four questions

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Organization	Yes or No	Question 1 Comment
Agency		and does not allow technical comments to be submitted at this level. If NERC is to perform an independent technical evaluation of a proposed regional standard, then NERC should allow stakeholders to make technical comments.
<p>Response: The scope of the NERC commenting period is outside the control of this SDT. Technical comments should be vetted through the Regional commenting periods and not the at the NERC level. All RFC standard comment periods are open and publicly noted. Anyone is entitled to provide comments via the Regional comment periods (there is no restriction for commenters to be within the RFC region).</p>		

2. Does the proposed standard pose an adverse impact to reliability or commerce in a neighboring region or interconnection?

Summary Consideration:

Organization	Yes or No	Question 2 Comment
Dominion Resources Inc.	No	
FirstEnergy	Yes	<p>FE is concerned with the newly added Requirement R1.4 which exempts wind generators from reactive verification requirements, as well as the comment which drove this change. Most of the older designs of wind units are true Induction Generators (IG's) and, as such, require external (external to the generator) reactive sources in the form of capacitors, SVC's, etc in order to meet Interconnection Agreements and FERC Order No. 661, 661A and the Pro Forma Standard (PFS). These older designs make up an increasingly smaller fraction of the total wind generation mix. By one estimate, more than 70% of the wind turbines being installed today are of the Doubly-Fed Induction Generator (DFIG) design, which, contrary to its name, performs in some respects, more like a synchronous generator than an induction machine. For example, a modern wind generator of a major manufacturer has the following ratings: 4 MVA, 3.6 MW, 2.08 MVar and -1.55 MVar. Considering a wind farm with many of these units installed, this represents a significant dynamic reactive source that holds great potential for transmission reliability, regardless of unit output. FE recommends requiring verification of wind units as a farm, .i.e, net output, at some level of real output (P) that is relatively common. The team should establish an output level that is realistic and that can be relied upon for both the transmission planning and operations environments. The capacity factor of the units could be incorporated into our suggested changes of R1 (see question 1 above) to capture the precocity of verification requirements. It is recognized that wind technology is changing rapidly with respect to most other forms of generation, and in the future it may be necessary to revise whatever verification requirements are placed on this resource to better serve the needs of reliability.</p>
<p>Response: The SDT agrees and will consider the addition of wind generators to the next version of the standard.</p>		
Consumers Energy Company	No	
Duke Energy	No	
AEP	No	

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Organization	Yes or No	Question 2 Comment
American Municipal Power - Ohio, Inc.		
We Energies	No	
Indiana Municipal Power Agency		

3. Does the proposed standard pose a serious and substantial threat to public health, safety, welfare, or national security?

Summary Consideration:

Organization	Yes or No	Question 3 Comment
Dominion Resources Inc.	No	
FirstEnergy	No	
Consumers Energy Company	Yes	The Standard as proposed requires reactive testing to be performed at or near NDC. Peaking units will only be available at or near NDC when system loads are at a peak. Performance of reactive testing at peak system loads will pose unnecessary risk to the BES. Performance of reactive testing at non-peak system loads places an unnecessary monetary burden on the Owner.
<p>Response: The SDT does not agree with the commenter’s premise that Peaking units will only be at or near NDC when systems loads are at a peak. During times of system duress, a scheduled reactive test may be suspended at the discretion of the Transmission Operator. This is addressed in R2.4, and its sub-requirements R2.4.2 and R2.4.3. If the GO still has concerns, R2.4.2 permits the GO to re-schedule the test. In addition, real outputs of multiple unit stations can be shifted among adjacent units to facilitate testing.</p>		
Duke Energy	No	
AEP	No	
American Municipal Power - Ohio, Inc.	No	
We Energies	No	
Indiana Municipal Power Agency	No	

4. Does the proposed standard pose a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability?

Summary Consideration:

Organization	Yes or No	Question 4 Comment
Dominion Resources Inc.	No	
FirstEnergy	No	
Consumers Energy Company	No	
Duke Energy	No	
AEP	No	
American Municipal Power - Ohio, Inc.		
We Energies	No	
Indiana Municipal Power Agency	Yes	<p>The proposed standard might create a serious and substantial burden on competitive markets within the Eastern Interconnection that is not necessary for reliability. The standard applies to Generator Operators and the standard applies to units larger than 85 MVA or generating plants larger than 85 MVA (R1.1 and R1.2). The connection voltage is not specified in R1.1, and it needs to be specified to eliminate any doubt about individual units connected at less than 100kV to the bulk power system. By imposing MVAR requirements on Generator Operators currently exempt from the Compliance Registry, the proposed standard would increase the cost of operating small generators which would be putting them at a competitive disadvantage in comparison to small generators in other Regions in the Eastern Interconnection. If the proposed standard is attempting to include individual units connected at a lower voltage than 100kV to the bulk power system, then it has not been demonstrated that making the standard applicable to Generator Operators who are currently exempt from the Compliance Registry is necessary from a reliability standpoint. The standard draft team should clarify R1.1 to eliminate any future confusion about the applicability of this standard. The standard should be only applicable to units larger than 85 MVA and connect at 100kV or higher to the bulk power system or the standard can be applied to registered units that meet the Compliance Registry Criteria.</p>

Organization	Yes or No	Question 4 Comment
		<p>Response: The Generating facilities the Standard is applicable to are no different than any other standard which applies to a Generator Owner. In general terms, the NERC Statement of Compliance Registry, states (as interpreted) that individual units > 20 MVA directly connected to the Bulk Power System (100 kV or higher) and/or a generating plant/facility (multiple units in aggregate) > 75 MVA directly connected to the Bulk Power System (100 kV or higher) fall under the Generator Operators responsibilities. Listed below are the four sections of the NERC Statement of Compliance Registry Criteria which stipulates which units/plants the Generator Operators are responsible for (in regards to compliance):</p> <p>III.c.1 Individual generating unit > 20 MVA (gross nameplate rating) and is directly connected to the bulk power system, or;</p> <p>III.c.2 Generating plant/facility > 75 MVA (gross aggregate nameplate rating) or when the entity has responsibility for any facility consisting of one or more units that are connected to the bulk power system at a common bus with total generation above 75 MVA gross nameplate rating, or;</p> <p>III.c.3 Any generator, regardless of size, that is a blackstart unit material to and designated as part of a transmission operator entity’s restoration plan, or;</p> <p>III.c.4 Any generator, regardless of size, that is material to the reliability of the bulk power system.</p> <p>By virtue of NERCs Statement of Compliance Registry Criteria, R1.1 and R1.2 typically only applies to generators/plants/facilities with maximum nameplate ratings greater than or equal to 85 MVA and directly connected to the BPS (unless section III.c.4 of the NERC Statement of Compliance Registry Criteria applies to a select generator).</p>

5. Does the proposed regional reliability standard meet at least one of the following criteria?

- The proposed standard has more specific criteria for the same requirements covered in a continent-wide standard
- The proposed standard has requirements that are not included in the corresponding continent-wide reliability standard
- The proposed regional difference is necessitated by a physical difference in the bulk power system.

Summary Consideration:

Organization	Yes or No	Question 5 Comment
Dominion Resources Inc.	Yes	The regional standard is needed to meet NERC standard MOD-025 requirements R1 and R2. We cited the following concern with this regional standard in response to RFC "Changes made in the definition of the term Modified D-Curve have restricted what were considered as acceptable modifications (deleted words read ?and known limitations of the plant equipment?) in the previous version. We are aware of instances where known plant limitations (such as vital bus voltage and reactor coolant pump amperage) are expected to limit their reactive capability to some value less than shown on the manufacture's D-curve." The SDT has not responded to this comment as of the date of the NERC notice.
<p>Response: The SDT, by defining Modified D Curve, intended to distinguish between generator limitations (reflected in protective settings) and external limitations such as voltage (high or low). A high voltage equipment condition that exists at one system condition might not exist at another; therefore it is not practical to re-draw the D curve to account for these conditions. On the other hand, the steady state stability limit of the generating unit (and the attendant underexcitation protection) is independent of system conditions, and can readily be reflected in adjustments to the underexcited portion of the D curve. It is expected that the GO will operate his equipment within applicable ratings, and document any limitations within the Modified D Curve found under test according to R2.3 and its sub-requirements.</p>		
FirstEnergy	Yes	We agree that the standard meets the criteria in bullets one and two above.
<p>Response: Thank you for your support.</p>		
Consumers Energy Company	Yes	
Duke Energy	Yes	It meets the second criterion - the proposed standard has requirements that are not included in the corresponding

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Organization	Yes or No	Question 5 Comment
		continent-wide reliability standard.
Response: Thank you.		
AEP	Yes	
American Municipal Power - Ohio, Inc.	No	
We Energies	Yes	
Indiana Municipal Power Agency	No	<p>NERC is currently in the process of developing a new continent-wide standard for MOD-025, because the current NERC version of MOD-025 did not receive FERC approval due to the 'fill-in' the blank requirements. NERC wants a new continent-wide standard and not for the regions to create a standard that will meet the 'fill-in' the blank requirement of the current NERC version of MOD-025. Since the current NERC version of MOD-025 did not receive FERC approval, there is no continent-wide standard for MVAR testing. RFC has not shown or proven that a regional difference is necessitated by a physical difference in the bulk power system. Therefore, the proposed standard does not meet any of the three criteria set out in this question. This RFC standard should be put on hold until NERC comes out with a standard and it receives FERC approval. This will give guidance to the RFC standard drafting team and then it can be determined if the proposed RFC standard is more stringent than the NERC MOD-025 standard (FERC approved version) which validates having a regional standard. The reason of wanting to join legacy documents does not justify the existence of a regional standard. NERC should therefore refuse to accept the proposed standard until a NERC version of this standard is written and approved by FERC.</p>
<p>Response: The SDT is moving forward with this standard for several reasons; (1) The associated standard at the NERC level may yet take a considerable amount of time to complete and RFC needs to comply with the fill in the blank requirements of the existing NERC standard, (2) RFC standard work continues to supply input into the NERC MOD-025 development. (3) Replacement of the legacy documents is required in the RFC Bylaws and will address ambiguities, inconsistencies and deficiencies of those documents, (4) This standard development was based on a SAR developed by the Day Two team, (5) Completion of this standard is consistent with RFC Strategic Plan following direction provided by the RFC Board.</p>		