NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments

Project 2014-01 Applicability for Dispersed Generation Resources Standards

The Dispersed Generation Resources (DGR)[1] Standards Drafting Team (SDT) thanks all commenters who submitted comments on the standards. These standards were posted for a 45-day public comment period from June 12, 2014 to July 28, 2014. Stakeholders were asked to provide feedback on the standards and associated documents through a special electronic comment form. There were 36 sets of comments, including comments from approximately 127 different people from approximately 89 companies representing all 10 Industry Segments as shown in the table on the following pages.

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

This document contains the SDT's response to all industry comments received during this comment period. The SDT encourages commenters to review its responses to ensure all concerns have been addressed. The SDT notes that a significant majority of commenters agree with the SDT's recommendations on these standards, but that several commenters expressed specific concerns. Some comments supporting the SDT's recommendations are discussed below but in most cases are not specifically addressed in this response. Also, several comments in response to specific questions are duplicated in other questions, and several commenters raise substantively the same concerns as others. Therefore, the SDT's consideration of all comments is addressed in this section in summary form, with duplicate comments treated as a single issue.

1. Summary Consideration

Industry overwhelming agrees with the SDT's recommendations to make applicability changes or provide guidance to account for the unique characteristics of DGRs in the NERC PRC-005 and VAR-002 standards as evidenced by the initial ballot results. However, there are some disagreements among stakeholders and typographical errors contained in and illuminated by industry comments. The SDT has carefully reviewed and considered each stakeholder comment and has revised its recommendations where suggested changes are consistent with SDT intent and industry consensus. The SDT's consideration of all comments follows.

2. General Comments

Industry identified a number of typographical and formatting errors in each of the posted high-priority standards PRC-005-2(X), PRC-005-3(X), PRC-005-X(X), VAR-002-2b(X), and VAR-002-4. The SDT also identified additional typographical and formatting errors during its most recent review. The SDT has

[1] The terms "dispursed generation resources" and "dispersed power producing resources" are used interchangeably.

corrected each identified typographical and formatting error as reflected in the posted redlined standards.

Some commenters object to including standard language in bullet format. At least one commenter believes that bullet points are historically described as "OR" statements in NERC Reliability Standards. The SDT is unaware of any drafting requirement that compels it to equate bullet points to "or" statements, and its use of the bullet format is consistent with guidance from NERC staff. In the absence of industry consensus or guidance from NERC staff that supports eliminating the bullet format, the SDT is respectfully declines to adopt that suggestion.

At least one commenter notes that in Quebec, the RTP (Main Transmission System) Elements are applied instead of Bulk Electric System (BES) Elements, and that the Generation Facilities are greater than 50 MVA / 44kV instead of 75 MVA. The commenter also notes that in Quebec, no DGRs are connected into the RTP network. The commenter believes that to facilitate compliance, the expression "inclusion I4" should not be included in the standard.

The SDT recognizes that in certain regions there may be additional regional standards and requirements that result in different criteria and thresholds in determining the requirements for Generation Facilities, including those facilities with DGRs. While the SDT intends to provide recommendations on these regional specific standards, making modifications to these standards and their requirements is outside the scope of this project. With respect to the application of the standard under various Canadian provincial and federal regulatory frameworks, the SDT recognizes that certain Canadian provinces have a process to adopt or modify NERC standards for use and enforcement in their specific provinces, and all have discretion to approve and enforce standards according to the needs within their jurisdictions. Therefore, the SDT respectfully declines to adopt this suggestion as inconsistent with its charge, which is specifically to make changes to standards to account for the explicit inclusion of dispersed generation resources under Inclusion I4 of the definition of BES.

3. Recommended Applicability Changes to PRC-005

Several commenters made comments that apply to all DGR versions of the posted PRC-005 standard, which the SDT addresses in this section. Although the SDT addresses industry comments specific to particular versions in the following sections, it considered each comment in the context of all versions of that particular standard to the extent applicable.

At least one commenter asks that the SDT explicitly state in the standard that PRC-005 becomes applicable on facilities where the aggregate generation sums to greater than 75 MVA and it connects at greater than 100 kV, and reference the BES Definition Reference document to clearly identify the applicable facilities where the aggregate generation sums to greater than 75 MVA and it connects at greater than 100 kV.

The BES Definition reference document is intended for use by entities in conjunction with the various reliability standards and their requirements in determining the applicability to their particular facilities. The proposed wording provided by the commenter is included within the BES Definition, which should be used by entities in determining applicability of PRC-005 to their facilities. The Protection Systems applied on the blue busses in figures I4-1 thru I4-4 of the BES Definition Reference Document are intended to be included in the applicable Facilities of the proposed revisions to PRC-005. For inclusion I4 facilities, the owner of the aggregating Facilities that are within scope of the proposed revisions to PRC-005 are responsible for maintaining per the standards requirements, irrespective of whether one or more entities own the various facilities connected. A sub transmission line used in the aggregation of dispersed generation would be within scope of the proposed revision to PRC-005 if the aggregate nameplate generation connected is greater than 75 MVA and the sub-transmission is designed primarily for delivering this generation capacity to a common point of connection at a voltage of 100 kV or above. The SDT respectfully declines to adopt the commenter's recommendations.

At least one commenter suggests that for consistency PRC-004 and PRC-005 should be applicable at an aggregate of greater than or equal to 75 MVA of BES facilities. The SDT recognizes the need to address protection system Misoperations at levels below the aggregate 75 MVA in some instances and has delineated these instances in PRC-004. The SDT believes the proposed "differences" in applicability for PRC-004 and PRC-005 are warranted and that the SDT has provided sufficient technical justification for this approach. Moreover, industry consensus clearly supports the SDT's recommendations on PRC-005. Therefore, the SDT respectfully declines to adopt this suggestion.

At least one commenter advocates replacing the 75 MVA generator size requirement with a 20 MVA size requirement citing a number of factors specific to the WECC region. In order to provide consistent requirements for all generation, the SDT believes it is necessary to assess applicability on individual units greater than 20 MVA and aggregate generation greater than 75 MVA, which are thresholds that have been explicitly recognized and approved by FERC as an appropriate threshold for these types of facilities consistent with the revised BES definition.[2] The SDT therefore does not believe it would be appropriate or technically justifiable to use different aggregation thresholds. The SDT notes that regional requirements may be more stringent than the national standards upheld through NERC and that all entities will need to abide by the applicable region's requirements. Moreover, this position is supported by clear industry consensus. For these reasons, the SDT respectfully declines to adopt this minority position.

At least one commenter believes Inclusion I4 of the BES definition specifically includes each generating resource, and that it is inconsistent to not include them for testing the protection systems under PRC-005. As written, according to the commenter, there would be portions of the BES that would not be

[2] *See* FERC Order Approving Revised Definition, P 20, Docket No. RD14-2-000.

required to have the protection systems tested. The commenter believes that a GO with a plant of small units aggregating above 75 MVA would be required to test the protection systems on all their units.

The SDT's scope was to review the applicability of a number of NERC standards as they apply to DGRs and determine if the standard requirements were appropriate. The SDT asserts that relay maintenance on individual units would not provide a significant reliability benefit to the BES and therefore should remain at the discretion of the entity as opposed to a NERC-enforced requirement. Industry consensus supports the SDT's position on this standard. Moreover, it is not within the scope of this project to evaluate the applicability of these standards to non-dispersed power producing resources, including the example of the GO with a plant of small units aggregating above 7 5MVA stated by the commenter. For these reasons, the SDT respectfully declines to adopt the commenter's position.

At least one commenter believes that under the standard, a conventional generating resource has to have a documented protection maintenance program which it must follow to ensure reliability, while under the proposed revisions to the standard, a similarly-sized, DGR would not be required to do the same. According to the commenter, if the standard is not applied to the DGR, then there is no required protection maintenance, which can result in more frequent trips and degraded reliability. The commenter believes that loss of the DGRs as distinct from individual units would have the same impact as loss of a single, similarly sized conventional generating resource, and thus a maintenance program that applies beyond the common point of connection should be required. The commenter believes that the maintenance program should be tailored to the type of DGR as determined by the GO/GOP, but having no requirement in place does not ensure reliable operations.

The SDT believes that the proposed language does require a DGR to have a protection system maintenance plan for the Facilities from the point where those resources aggregate to 75 MVA through to a common point of interconnection at or above 100 kV. In light of clear industry consensus supporting the SDT's recommendations, the SDT respectfully declines to make additional revisions to address this minority concern.

A. PRC-005-2(X)

At least one commenter believes that in order to minimize confusion regarding the use of the term "Facilities" versus "facilities" in the Applicability Section, the SDT should change the heading of 4.2 to "Applicable facilities." The commenter also suggests that the formatting in 4.2.6 parallel the formatting of 4.2.5 in that specifics are listed in 4.2.5 and they are absent in 4.2.6, or modify 4.2.5 to match 4.2.6. Other commenters raise similar consistency concerns.

The SDT intends to refer to "Facilities" in the applicability section; this applicability section and the term "Facilities" is used in a number of standards to describe specific equipment that the standards'

requirements should be applied to. The scope of this SDT is to address the applicability to DGRs only, and the SDT feels that changing this section to "facilities" would go beyond the scope of this project. The SDT chose not to list the specific Protection Systems in 4.2.6 like they are listed in 4.2.5, as the SDT believed the language in 4.2.6.1 (i.e., ". . . Facilities used in aggregating dispersed. . .") will result in inclusion of the appropriate Protections Systems for DGR facilities. The SDT also believes the current language is adequate and provides for a clear separation between the requirements for inclusion I4 generators and the requirements for all other BES generators. Consistent with clear industry consensus supporting the SDT's direction on this issue, the SDT respectfully declines to adopt the proposed changes.

At least one commenter believes that in 4.2.6.1, "75 MVA should be changed to "20 MVA." The commenter believes this would make it comparable to I2 generators, and that although the change to 20 MVA would have this standard apply to non-BES assets, many standards do likewise. The commenter notes that "Protection Systems," which are the subject of this standard, are non-BES. The commenter believes that as written, a reliability gap would be created between I4 generators and I2 generators. According to the commenter, the proposed change violates Section 303 of the NERC Rules of Procedure, paragraph 1 that states: "Competition - A Reliability Standard shall not give any market participant an unfair competitive advantage."

In order to provide consistent requirements for all generation, the SDT believes it is necessary to assess applicability on individual units greater than 20 MVA and aggregate generation greater than 75 MVA, which are thresholds that have been explicitly recognized and approved by FERC as appropriate thresholds for these types of facilities consistent with the revised BES definition.[3] The SDT therefore does not believe it would be appropriate to use different aggregation thresholds absent a robust technical justification to do so. Moreover, the SDT does not believe that a reliability gap is created, nor any unfair competitive advantages are given as a result, a position that is supported by clear industry consensus supporting the SDT's direction on these standards. Absent a clear technical justification compelling such a change, the SDT, after consulting with NERC's legal representative assigned to the project, respectfully declines to adopt the commenter's suggestion.

At least one commenter recommends revising 4.2.5 to read "Protection Systems for the following BES generator Facilities identified through Inclusions I2 and I3 of the BES definition," as the commenter believes it is more appropriate to cite how these BES generators are included under this section as opposed to indicating how they are not applicable under this section. Currently, according to the commenter, the standard's applicability is based first on the NERC Registration Criteria and secondly on facilities identified within the standard, regardless of their BES status. The commenter believes the proposed revisions mean to change the applicability of the standard first to the NERC Registration Criteria and secondly on facilities identified within the standard, and this BES generator Facilities

[3] *See* FERC Order Approving Revised Definition, P 20, Docket No. RD14-2-000.

change in 4.2.5 (i.e. Inclusions I2 and I3) essentially means the Protection System to be considered now is the "generator including the generator terminals through the high-side of the step-up transformer" and no longer considers protection to the point of interconnection.

The SDT believes the current language is adequate and clear. The SDT chose to use Inclusion I4 in the revised language of 4.2.5 such that the section 4.2.5 would resemble as closely as possible the original language of 4.2.5. Introducing the I2 and I3 terminology into this language was considered but determined to be unnecessary in order to specifically address DGRs. Furthermore, the SDT believes that further clarification of the applicability of the standard requirements to BES generators that are not identified under Inclusion I4 generators is beyond the scope of this project. The SDT disagrees that the revised language results in exclusion of the protection at the point of interconnection for these facilities, as this protection would be covered under 4.2.6.1. The SDT's position is supported by clear industry consensus and it therefore respectfully declines to make the proposed changes.

B. PRC-005-3(X)

At least one commenter recommends revising 4.2.5 to read "Protection Systems for the following BES generator Facilities identified through Inclusions I2 and I3 of the BES definition," as the commenter believes it is more appropriate to cite how these BES generators are included under this section as opposed to indicating how they are not applicable under this section.

The SDT believes the current language is adequate. The SDT chose to use Inclusion I4 in the revised language of 4.2.5 such that the section 4.2.5 would resemble as closely as possible the original language of 4.2.5. Introducing the I2 and I3 terminology into this language was considered, but determined to be unnecessary in order to specifically address dispersed power producing resources. The SDT believes that further clarification of the applicability of the standard requirements to BES generators that are not identified under Inclusion I4 generators is beyond the scope of this project.

At least one commenter believes that in order to minimize confusion regarding the use of the term "Facilities" versus "facilities" in the Applicability Section, the SDT should change the heading of 4.2 to "Applicable facilities." The commenter also suggests that the formatting in 4.2.6 parallel the formatting, or construction, of 4.2.5 in that specifics are listed in 4.2.5 and they are absent in 4.2.6, or modify 4.2.5 to match 4.2.6. Another commenter believes that PRC-005-3(X) facilities sections (4.2.6 and 4.2.6.1) should be clarified and consistent with section 4.2.5 and offers suggested language to enhance clarity.

The SDT intends to refer to "Facilities" in the applicability section; this applicability section and the term "Facilities" is used in a number of standards to describe specific equipment that the standards' requirements should be applied to. The scope of this SDT is to address the applicability to dispersed power producing resources only, and the SDT feels that changing this section to "facilities" would go

beyond the scope of this project. The SDT chose not to list the specific Protection Systems in 4.2.6 like they are listed in 4.2.5, as the SDT believed the language in 4.2.6.1 (i.e., ". . . Facilities used in aggregating dispersed. . .") will result in inclusion of the appropriate Protections Systems for dispersed power producing facilities, a position supported by clear industry consensus. Therefore, the SDT respectfully declines to change its position.

C. PRC-005-X(X)

At least one commenter recommends revising 4.2.5 to read "Protection Systems for the following BES generator Facilities identified through Inclusions I2 and I3 of the BES definition," as the commenter believes it is more appropriate to cite how these BES generators are included under this section as opposed to indicating how they are not applicable under this section.

The SDT believes the current language is adequate. The SDT chose to use Inclusion I4 in the revised language of 4.2.5 such that the section 4.2.5 would resemble as closely as possible the original language of 4.2.5. Introducing the I2 and I3 terminology into this language was considered, but determined to be unnecessary in order to specifically address dispersed power producing resources. The SDT believes that further clarification of the applicability of the standard requirements to BES generators that are not identified under Inclusion I4 generators is beyond the scope of this project.

At least one commenter asks whether the reference to PRC-005-3 in the second line under the Description of Current Draft should be to PRC-005-4. The commenter notes that the redline version shows a rationale box with the Introduction section, and that this box, even though it contains redline changes, is not included in the clean version.

The reference to PRC-005-3 in the Description of Current Draft section is intended, as no released version of PRC-005-4 existed at the time of the posting of this project (2014-01). Upon further review, all rationale boxes in the redline version were incorporated into the clean version of the standard as well.

At least one commenter questions whether the omission of sudden pressure relays for dispersed generation resources under PRC-005-X Applicability 4.2.6 was intentional. It was not the intent of the SDT to omit sudden pressure relays on aggregating equipment at facilities with DGRs from the requirements listed in PRC-005-X. The SDT believes that sudden pressure relays utilized on Facilities associated with DGRs should be treated the same as those used on Facilities of other BES generators. The SDT will provide these comments to Project 2007-17.3 for consideration.

At least one commenter believes that sudden pressure relays are not "necessary." The scope of this SDT is to address the applicability to dispersed power producing resources only, not whether there is technical justification to include or exclude sudden pressure relays as a Protection System within the

scope of PRC-005. The SDT believes that sudden pressure relays used on Facilities associated with DGRs should be treated the same as those used on Facilities of other BES generators. The SDT will provide these comments to Project 2007-17.3 for consideration.

4. Recommended Applicability Changes to VAR-002

Several commenters made comments that apply to both DGR versions of the posted VAR-002 standard, which the SDT addresses in this section. Although the SDT addresses industry comments specific to particular versions in the following sections, it considered each comment in the context of all versions of that particular standard to the extent applicable.

At least one commenter believes that the proposed changes are not consistent with the delineation in PRC-004 and PRC-005 nor inclusive of the DGR issue, and that VAR-002 changes only address change in reactive capability and do not address automatic voltage control and status at each generator site. The commenter suggests that VAR-002 should be written explicitly to only apply at the point of aggregation to 75 MVA with the transmission system.

The SDT is unaware of an automatic voltage control and status at each generator site issue. The SDT has proposed to exempt reporting of status or capability changes as stated in Requirement R3.1. to the DGR individual generating units identified through Inclusion I4 of the BES definition, but did not propose exemption from reporting at the aggregate facility level.

At least one commenter believes proposed R3 creates a reliability gap between I4 generators and I2 generators, and violates Section 303 of the NERC Rules of Procedure. The commenter suggests modifying the language to create a 20 MVA aggregation threshold for reporting. The SDT carefully considered this issue in responding to comments on its White Paper and these standards, and industry consensus clearly supports the SDT's recommendations on this standard, including Requirement R3. Absent clear industry consensus supporting the commenter's suggestion to modify the SDT's recommendations on VAR-002, the SDT has consulted with the NERC legal representative assigned to the project and respectfully declines to adopt the commenter's recommendation.

At least one commenter does not believe VAR-002 should state non-applicability to DGRs identified through Inclusion I4 of the BES definition and cites a number of factors specific to the WECC region, particularly with respect to modeling. The SDT agrees that modeling should be improved and inclusive of DGR facilities. However, VAR-002 deals with reporting of reactive power capability changes. Therefore, in light of clear industry consensus supporting the SDT's direction on VAR-002, the SDT respectfully declines to adopt the commenter's suggestion.

A. VAR-002-2b(X) [Note that FERC approved VAR-002-3 on August 1, 2014, and VAR-002-2b will be retired effective at midnight on September 30, 2014. The SDT is proceeding with balloting of

VAR-002-2b(X) because of differences in the way standards become enforceable in certain Canadian jurisdictions. The intent if VAR-002-2b(X) is approved by balloters is to file it upon Board adoption only in those Canadian jurisdictions that do not tie their enforcement dates to FERC approval.]

At least one commenter asks the SDT to clarify that Protection System Misoperations of the individual wind generators affects only themselves, but will not cause an aggregate effect with other wind turbines. For example, the commenter notes, this standard only applies to aggregate substation transformers. The commenter is concerned that still lies on meeting Requirements R1 and R2, operating in voltage control mode, and that some existing wind generators operate in a power factor control mode, not voltage control mode, and is not capable of operating in either voltage or power factor control mode.

The SDT believes Requirement R1 provides an exemption by the Transmission Operator, such as when "automatic voltage regulator" (AVR) is not required for older DGR facilities. Similarly, Requirement R2 has an exemption clause by the Transmission Operator. It is implied in NERC VAR-001-3 that each GOP and TOP should understand capabilities of the generation facility, including the equipment installed, said equipment's capabilities and the requirements of the transmission system to ensure a mutually agreeable solution and schedule are used.

At least one commenter notes that references to R4 and R5 in the Description of Current Draft Section should be to R3 and R4, and recommends deleting "BES" in front of "Bulk Electric Systems" referenced in the line in which the references are made. The SDT agrees and has therefore adopted these suggestions. The SDT believes the current language is sufficiently clear, and industry consensus supports the SDTs direction on this issue. Therefore, the SDT respectfully declines to adopt the commenter's suggestion.

At least one commenter suggests that the SDT modify R1 reasoning that each individual generating unit of a dispersed generation site that exceeds the 75 MVA threshold is included as part of the BES, and R1 would apply requiring each of these units to be operated with AVR in voltage regulating mode. According to the commenter, these units usually do not have an AVR and are not capable of controlling voltage; rather, they rely on other voltage regulating equipment such as SVC or capacitor banks to control voltage at the interconnecting point. Thus, the commenter requests that the SDT modify R1 so that is not applicable to the individual DGR units. The SDT believes the current language is sufficiently clear, and industry consensus supports the SDTs direction on this issue. Therefore, the SDT respectfully declines to adopt the commenter's suggestion.

At least one commenter believes R2 should also be modified to reflect that these DGRs often do not have AVRs and must rely on other voltage regulating equipment to control voltage at the

interconnecting point, and that the SDT should modify R2 so that is not applicable to the individual DGR units.

The SDT does not agree that additional applicability changes are required for Requirements R1 and R2 because the AVR portion of the requirements cannot be applied to individual generators that do not have AVRs at each individual unit. Furthermore, each generation facility may have a different methodology to ensure the facility has an automatic and dynamic response to changes in voltage to ensure the TOPs instructions are maintained. It is implied in NERC VAR-001-3 that each GOP and TOP should understand the capabilities of the generation facility including the equipment installed, equipment capabilities, and the requirements of the transmission system to ensure that a mutually agreeable solution and schedule are used. Industry consensus supports the approach recommended by the SDT, and the SDT therefore respectfully declines to adopt the suggested changes to Requirements R1 and R2.

The SDT agrees with commenters that additional clarity is warranted in Requirement R3 and has therefore proposed changes as reflected in the posted redlined standard.

Some commenters agree with the SDTs recommended changes to Requirement R3, Part 3.1 but expresses their view that the number of individual units in an aggregated site is not detrimental to the overall operation of the entire site. In that case, according to the commenters, the site status for the entire aggregated facility should be reported. Many commenters further note that the Rationale Box for Footnote 5 references the Transmission Provider and in one instance only references Transmission, and that these references should be to the Transmission Planner as indicated in Requirement R4.

It was not the intent of the SDT to change the reporting requirements at the aggregate facility level. However, the SDT has made changes to the Requirement language to enhance clarity of the applicability to dispersed power producing resources. The SDT agrees the rationale for Requirement R4 should reference Transmission Operator and Transmission Planner and has therefore adopted that suggestion as reflected in the posted redlined standard.

At least one commenter agrees with the proposed Requirements but has issues with the associated Rational for Footnote 5 in Requirement R4, Part 4.1. The commenter believes auxiliary transformers stated in Requirement R4.1 are usually transformers that provide station services to the generator, and that the second sentence is out of line since it is directed to the collector system (34.5kV), which should be deleted. Another commenter suggests the SDT change “Transmission Provider” to “Transmission Planner.” The SDT agrees and has therefore made clarifying changes to the rationale box as reflected in the posted redlined standard.

At least one commenter argues that since the standard is being revised the SDT should make changes to re-align the Measures with the Requirements to develop a more risk-based standard as NERC has

proposed going forward. The SDT expresses no opinion on this point, as the suggested change is outside the scope of this project.

B. VAR-002-4

At least one commenter notes that the bullet describing the DGR exclusion for R4 lacks identification of what "individual" is being excluded, and as written could create confusion. The commenter further notes that the rationale box indicates that the intent is to exclude the individual resources from R4, and suggests the following modification: "Reporting of reactive capability changes is not applicable to the individual resource for dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System Definition." The SDT believes that changes it has proposed in the posted redlined version of this standard are sufficiently clear.

At least one commenter believes the bulleted item under R4 is too wordy and recommends alternative language to provide clarity. The SDT has made clarifying changes as reflected in the posted redlined standard.

At least one commenter suggests inserting the term "generator" between "individual" and "for" in the bullet under Requirement R4. Another commenter notes that the rationale for R5 should identify the "Transmission Provider" to "Transmission Planner." The SDT agrees and has therefore made clarifying changes as reflected in the posted redlined standard.

Several commenters identify several errors in the posted version of this standard, specifically, Requirements R4 and R5. The SDT is aware the balloted version of VAR-002-4 was missing language in Requirement R4 and changed the requirement language in Requirement R5. The SDT has corrected these errors as reflected in the posted redlined standard.

At least one commenter believes that since VAR-002-4 only contains minor technical revisions dealing with the applicability specifically for Requirements R4 and R5, it may be feasible that VAR-002-4 will be approved before VAR-002-3, and the special provisions for 'the later of' are therefore not needed. The commenter believes the traditional Effective Date language would suffice. The commenter also believes that the concept of 'the first day of the first calendar quarter following approval' needs to be added to the governmental approval clause.

The SDT worked in close consultation with NERC staff to develop language that would result in DGR applicability changes as quickly as reasonably practicable regardless of which versions are first approved by FERC. Indeed, although FERC has approved VAR-002-3 and the standard will become enforceable in the U.S. on October 1, 2014, the Effective date language must allow for the different frameworks by which standards become enforceable in Canadian provinces. The SDT therefore respectfully declines to adopt the commenter's recommendation.

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 Director of Standards, Valerie Agnew, at 404-446-2566 or at valerie.agnew@nerc.net . In addition, there is a NERC Reliability Standards Appeals Process.[4]

[4] The appeals process is in the Standard Processes Manual: http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf

The Industry Segments are:

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

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
1.	Group	Guy Zito	Northeast Power Coordinating Council										X

	Additional Member	Additional Organization	Region	Segment Selection
1.	Alan Adamson	New York State Reliability Council, LLC	NPCC	
2.	David Burke	Orange and Rockland Utilities Inc.	NPCC	3
3.	Greg Campoli	New York Independent System Operator	NPCC	2
4.	Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
5.	Chris de Granffenried	Consolidated Edison Co. of New York, Inc.	NPCC	1
6.	Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
7.	Mike Garton	Dominion Resources Services, Inc.	NPCC	5
8.	Ben Wu	Orange and Rockland Utilities Inc.	NPCC	1
9.	Mark Kenny	Northeast Utilities	NPCC	1

Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
			1	2	3	4	5	6	7	8	9	10

10.	Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
11.	Helen Lainis	Independent Electricity System Operator	NPCC	2
12.	Michael Jones	National Grid	NPCC	1
13.	Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
14.	Bruce Metruck	New York Power Authority	NPCC	6
15.	Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
16.	Lee Pedowicz	Northeast Power Coordinating Council		10
17.	Robert Pellegrini	the United Illuminating Company		1
18.	Ayesha Sabouba	Hydro One Networks Inc.		1
19.	Brian Robinson	Utility Services		8
20.	David Ramkalawan	Ontario Power Generation, Inc.		5
21.	Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
22.	Brian Shanahan	National Grid	NPCC	1
23.	Wayne Sipperly	New York Power Authority	NPCC	5

2.	Group	Janet Smith	Arizona Public Service Company	X		X		X	X				

N/A

3.	Group	Joseph DePoorter	MRO NSRF	X	X	X	X	X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Amy Casucelli	Xcel Energy	MRO	1, 3, 5, 6
2.	Chuck Wicklund	Otter Tail Power Company	MRO	1, 3, 5
3.	Dan Inman	Minnkota Power Cooperative	MRO	1, 3, 5, 6
4.	Dave Rudolph	Basin Electric Power Cooperative	MRO	1, 3, 5, 6
5.	Kayleigh Wilkerson	Lincoln Electric System	MRO	1, 3, 5, 6
6.	Jodi Jensen	WAPA	MRO	1, 6
7.	Joseph DePoorter	Madison Gas & Electric	MRO	3, 4, 5, 6
8.	Ken Goldsmith	Alliant Energy	MRO	4
9.	Mahmood Safi	Omaha Public Power District	MRO	1, 3, 5, 6
10.	Marie Knox	MISO	MRO	2
11.	Mike Brytowski	Great River Energy	MRO	1, 3, 5, 6
12.	Randi Nyholm	Minnesota Power	MRO	1, 5
13.	Scott Nickels	Rochester Public Utiliteis	MRO	4

Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
			1	2	3	4	5	6	7	8	9	10
14. Terry Harbour	MidAmerican Energy	MRO	1, 3, 5, 6									
15. Tom Breene	Wisconsin Public Service	MRO	3, 4, 5, 6									
16. Tony Eddleman	Nebraska Public Power District	MRO	1, 3, 5									
4. Group	Connie Lowe	Dominion	X		X		X		X			
Additional Member	**Additional Organization**	**Region**	**Segment Selection**									
1. Randi Heise		MRO	NA									
2. Mike Garton		NPCC	5									
3. Louis Slade		RFC	5, 6									
4. Larry Nash		SERC	1, 3, 5, 6									
5. Group	Michael Lowman	Duke energy	X		X		X	X				
Additional Member	**Additional Organization**	**Region**	**Segment Selection**									
1. Doug Hils		RFC	1									
2. Lee Schuter		FRCC	3									
3. Dale Goodwine		SERC	5									
4. Greg Cecil		RFC	6									
6. Group	Kathleen Black	DTE Electric			X	X	X					
Additional Member	**Additional Organization**	**Region**	**Segment Selection**									
1. Kent Kujala	NERC Compliance	RFC	3									
2. Daniel Herring	NERC Training & Stanards Development	RFC	4									
3. Mark Stefaniak	Generation Optimization	RFC	5									
4. Barbara Holland	SOC											
5. Dave Szulczewski	DE-EE Relay Eng Supv											
7. Group	Cindy Stewart	FirstEnergy	X		X	X	X	X				
Additional Member	**Additional Organization**	**Region**	**Segment Selection**									
1. William Smith	FirstEnergy Corp	RFC	1									
2. Doug Hohlbaugh	Ohio Edison	RFC	4									
3. Ken Dresner	FirstEnergy Solutions	RFC	5									
4. Kevin Querry	FirstEnergy Solutions	RFC	7									
8. Group	David Greene	SERC Protection and Controls Subcommittee										

Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
			1	2	3	4	5	6	7	8	9	10

	Additional Member	Additional Organization	Region	Segment Selection
1.	Bridget Coffman	Santee Cooper		
2.	John Miller	GTC		
3.	George Pitts	TVA		
4.	Joel Masters	SCE&G		
5.	Steve Edwards	Dominion		
6.	David Greene	SERC		
7.	Paul Nauert	Ameren		

9.	Group	Carol Chinn	Florida Municipal Power Agency	X		X	X	X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Tim Beyrle	City of New Smyrna Beach	FRCC	4
2.	Jim Howard	Lakeland Electric	FRCC	3
3.	Greg Woessner	Kissimmee Utility Authority	FRCC	3
4.	Lynne Mila	City of Clewiston	FRCC	3
5.	Cairo Vanegas	Fort Pierce Utility Authority	FRCC	4
6.	Randy Hahn	Ocala Utility Service	FRCC	3
7.	Stanley Rzad	Keys Energy Services	FRCC	4
8.	Don Cuevas	Beaches Energy Services	FRCC	1
9.	Mark Schultz	City of Green Cove Springs	FRCC	3
10.	Tom Reedy	Florida Municipal Power Pool	FRCC	6
11.	Steve Lancaster	Beaches	FRCC	1
12.	Richard Bachmeier	Gainesville Regional Utilities	FRCC	1
13.	Mike Blough	Kissimmee Utility Authority	FRCC	5

10.	Group	Robert Rhodes	SPP Standards Review Group		X								

	Additional Member	Additional Organization	Region	Segment Selection
1.	Stephanie Johnson	Westar Energy	SPP	1, 3, 5, 6
2.	Bo Jones	Westar Energy	SPP	1, 3, 5, 6
3.	Tiffany Lake	Westar Energy	SPP	1, 3, 5, 6
4.	Ron Losh	Southwest Power Pool	SPP	2
5.	Shannon Mickens	Southwest Power Pool	SPP	2

Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
			1	2	3	4	5	6	7	8	9	10

6.	Wes Mizzell	Westar Energy	SPP	1, 3, 5, 6
7.	James Nail	City of Independence, MO	SPP	3

11.	Group	Greg Campoli	IRC Standards Review Committee		X								

	Additional Member	Additional Organization	Region	Segment Selection
1.	Charles Yeung	SPP	SPP	2
2.	Ben Li	IESO	NPCC	2
3.	Ali Miremadi	CAISO	WECC	2
4.	Lori Spence	MISO	MRO	2
5.	Cheryl Moseley	ERCOT	ERCOT	2
6.	Matt Goldberg	ISONE	NPCC	2
7.	Stephanie Monzon	PJM	RFC	2

12.	Group	Jason Marshall	ACES Standards Collaborators						X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3, 4
2.	Scott Brame	North Carolina Electric Membership Corporation	SERC	3, 4, 5
3.	Ginger Mercier	Prairie Power	SERC	3
4.	Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
5.	John Shaver	Arizona Electric Power Cooperative	WECC	4, 5
6.	John Shaver	Southwest Transmission Cooperative	WECC	1
7.	Bob Solomon	Hoosier Energy	RFC	1

13.	Group	Pamela Hunter	Southern Company: Southern Company Services, Inc.; Alabama Power Company; Southern Company Generation, Southern Company Generation and Energy Marketing	X		X		X	X				

N/A

14.	Group	Andrea Jessup	Bonneville Power Administration	X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Steve Enyeart	Customer Service Engineering	WECC	1

15.	Individual	Heather Bowden	EDP Renewables North America LLC					X					
16.	Individual	Jim Nail`	Independence Power & Light			X		X					

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
17.	Individual	Joe Butterfield	Wisconsin Public Service Corporation			X							
18.	Individual	Terry Volkmann	Volkmann COnsulting, Inc								X		
19.	Individual	John Seelke	Public Service Enterprise Group	X		X		X	X				
20.	Individual	Anthony Jablonski	ReliabilityFirst										X
21.	Individual	Thomas Foltz	American Electric Power	X		X		X	X				
22.	Individual	Jo-Anne Ross	Manitoba Hydro	X		X			X				
23.	Individual	Si Truc PHAN	Hydro-Quebec TransEnergie	X									
24.	Individual	Timothy Brown	Idaho Power	X									
25.	Individual	Karin Schweitzer	Texas Reliability Entity										X
26.	Individual	David Jendras	Ameren	X		X		X	X				
27.	Individual	John Pearson	ISO New England		X								
28.	Individual	John Robertson	First Wind					X					
29.	Individual	George Brown	Acciona Energy North America Corporation					X					
30.	Individual	Israel Beasley	Georgia Transmission Corporation	X									
31.	Individual	Joshua Andersen	Salt River Project	X		X		X	X				
32.	Individual	Steven Lancaster	BES			X							
33.	Individual	Spencer	Tacke			X	X		X				
34.	Individual	Sergio Banuelos	Tri-State Generation and Transmission Association, Inc.	X		X		X					
35.	Individual	Michael Moltane	ITC	X									
36.	Individual	Joe Tarantino	Sacramento Municipal Utility District	X		X	X	X	X				

If you support the comments submitted by another entity and would like to indicate you agree with their comments, please select "agree" below and enter the entity's name in the comment section (please provide the name of the organization, trade association, group, or committee, rather than the name of the individual submitter).

Summary Consideration: The SDT thanks all commenters for their input and refers the reader to the summary response above.

Organization	Agree	Supporting Comments of "Entity Name"
Independence Power & Light	Agree	Southwest Power Pool
BES	Agree	FMPA

1. Do you agree with the revisions made in proposed PRC-005-2(X) to clarify applicability of PRC-005-2 to dispersed power producing resources included in the BES through Inclusion I4 of the BES definition? If not, please provide technical rationale for your disagreement along with suggested language changes.

Summary Consideration: The SDT thanks all commenters for their input and refers the reader to the summary response above.

Organization	Yes or No	Question 1 Comment
MRO NSRF	No	The proposed wording within the Applicability section of 4.2.5 is very wordy and without the Rational box for 4.2.5, entities will be very confused. The NSRF recommend that 4.2.5 be reworded to read; "Protection Systems for BES generation Facilities (Inclusion I4 assets are contained within section 4.2.6)". This will allow all BES connected generators to be covered by this Standard and clearly describes what is applicable per Inclusion I4 via 4.2.6.
Dominion	No	Dominion recommends revising 4.2.5 to read "Protection Systems for the following BES generator Facilities identified through Inclusions I2 and I3 of the BES definition:" as we believe it is more appropriate to cite how these BES generators are included under this section as opposed to indicating how they are not applicable under this section. Currently the standard's applicability is based first on the NERC Registration Criteria and secondly on facilities identified within the standard (4.2.5 Protection Systems for generator Facilities), regardless of their BES status. This proposed revisions means to change the applicability of the standard first to the NERC Registration Criteria and secondly on facilities identified within the standard (4.2.5 Protection Systems for BES generator Facilities). This BES generator Facilities change in 4.2.5 (i.e. Inclusions I2 and I3) essentially means the Protection System to be considered now is the "generator including the

Organization	Yes or No	Question 1 Comment
		generator terminals through the high-side of the step-up transformer" and no longer considers protection to the point of interconnection.
FirstEnergy	No	FirstEnergy abstains as we are not directly impacted by this project. Please see our response to Question #6.
SPP Standards Review Group	No	Rewrite the 1st line under Description of Current Draft to read: 'This version of PRC-005 contains revisions to the applicability of the Standard intended to...' This eliminates the redline typo.In order to minimize confusion regarding the use of the term 'Facilities' versus 'facilities' in the Applicability Section, we recommend changing the heading of 4.2 to 'Applicable facilities'.Insert a space between the 'apply' and the 'only' in the 6th line of the Rationale Box for 4.2.6. Also expand the box down to capture all of the last line.We also suggest that the formatting in 4.2.6 parallel the formatting, or construction, of 4.2.5 in that specifics are listed in 4.2.5 and they are absent in 4.2.6. Or the drafting team could go in the other direction and modify 4.2.5 to match 4.2.6.The redline version contained several Rationale Boxes which are missing from the clean version. Were the boxes holdovers from previous versions making the clean version the correct copy or were they supposed to be included in the clean version?
EDP Renewables North America LLC	No	For consistency, it should be considered to have PRC-004 and PRC-005 to be applicable at an aggregate of greater than or equal to 75 MVA of BES facilities.
Wisconsin Public Service Corporation	No	The PRC-005-2(X) facilities sections (4.2.6 and 4.2.6.1) should be clarified and consistent with section 4.2.5. Suggested clarification: 4.2.6 Protection Systems for the following BES dispersed power producing resources identified through Inclusion I4 of the BES definition; excluding the individual resources: 4.2.6.1 Protection Systems that act to trip a common point of connection at 100 kV or above where those resources aggregate to greater

Organization	Yes or No	Question 1 Comment
		than 75 MVA, either directly or via a lockout relay. OR4.2.6.1 Protection Systems that act to trip dispersed power producing resources common point of connection at 100 kV or above where those resources aggregate to greater than 75 MVA, either directly or via lockout relay.
Public Service Enterprise Group	No	In 4.2.6.1, "75MVA should be changed to "20MVA." This would make it comparable to I2 generators. Although the change to 20MVA would have this standard apply to non-BES assets, many standards do likewise. In fact "Protection Systems," which are the subject of this standard, are non-BES. As written, a reliability gap would be created between I4 generators and I2 generators.The proposed change violates Section 303 of the NERC Rules of Procedure, paragraph 1 that states: "Competition - A Reliability Standard shall not give any market participant an unfair competitive advantage." If alternative language was proposed that required the same 75MVA threshold for I2 generators, PSEG would be fine with that. But the proposed non-comparable treatment of generators is not acceptable.
Hydro-Quebec TransEnergie	No	In Quebec, the RTP (Main Transmission System) Elements are applied instead of BES Elements. The Generation Facilities are greater than 50 MVA / 44kV instead of 75 MVA.Also in Quebec, NO Dispersed Generation is connected into the RTP network.To facilitate the compliance, the expression 'inclusion I4' should NOT include in the standard.
Idaho Power	No	Inclusion I4 of the BES definition specifically includes each generating resource. It is inconsistent to not include them for testing the protection systems under PRC-005. As written, there would be portions of the Bulk Electric System that would not be required to have the protection systems tested. A GO with a plant of small units aggregating above 75 MVA would be required to test the protection systems on all their units. How is this equitable? I understand that you have addressed this issue in the Consideration of Comments for the White Paper (Pg 9 & 10), however I

Organization	Yes or No	Question 1 Comment
		disagree with your conclusion. If they individual resources are insignificant to test, they why are they considered part of the BES?
ISO New England	No	Under the standard, a conventional generating resource has to have a documented protection maintenance program which it must follow to ensure reliability. On the other hand, under the proposed revisions to the standard, a similarly-sized, dispersed power producing resource would not be required to do the same. If the standard is not applied to the dispersed generation resource, then there is no required protection maintenance, which can (and does in practice) result in more frequent trips, and degraded reliability. Loss of the dispersed generation resource (as distinct from individual units) would have the same impact as loss of a single, similarly sized conventional generating resource. Thus, a maintenance program that applies beyond the common point of connection should be required. The maintenance program should definitely be tailored to the type of dispersed generation power producing resource as determined by the GO/GOP, but having no requirement in place does not ensure reliable operations.
Tacke	No	For all three PRC-005 proposed modifications, I think we still need to replace the 75 MVA generator size requirement with the 20 MVA size requirement, for the following reasons:WECC requires dynamic model verification for all units 20 MVA or larger connected at voltages 60 kV and above. This is because WECC members have learned over the years to recognize the significant role that smaller size generators play in system response and stability. Also, the WECC MVWG (Modeling and Validation Work Group) is currently performing a study to determine what is the minimum size generator for which model testing and verification needs to be completed.Also, within the next few years, there will be thousands of MWs of PV solar plants on-line in Central California, a large percentage of which will be small, 20 MW plants. We see about 2,500 MW of 20 MW PV

Organization	Yes or No	Question 1 Comment
		units in the queue for the SGIP, SGIP-TC, WDAT, Clusters 1&2, and Clusters 3&4 in California, all coming on-line between now and 2018.Also, past WECC studies over the years of major outages have shown that generators, and indeed loads, below 100 kV, have played a major role in the impact of outages. In fact, the most accurate duplication of the August 1996 outage, and more recent outages that the WECC MVWG has simulated, have shown that the accuracy of the simulated results of actual system outages is highly affected by the accuracy of the modeled system below 100 kV.
Northeast Power Coordinating Council	Yes	
Arizona Public Service Company	Yes	
Duke energy	Yes	
DTE Electric	Yes	
SERC Protection and Controls Subcommittee	Yes	Please word the standard to clearly identify that PRC-005 becomes applicable on facilities where the aggregate generation sums to > 75MVA and it connects at >100kV. Please refer to Figures in the BES Definition Reference document to clearly identify the applicable facilities where the aggregate generation sums to > 75MVA and it connects at >100kV.For example in the BES Definition Reference Document Figures I4-1 through I4-4, is the protection system on the blue bus in the purple circle included given that the green feeders are not BES? Or, is just the transformer protection applicable since it is clearly all blue (BES) in the diagram?As another example in the BES Definition Reference Document Figure I4-1, can each of the 4 green strings of distributed generation be owned by the same or different companies, located at one or separate locations and the blue collector bus actually be a sub transmission line (or distribution line)?

Organization	Yes or No	Question 1 Comment
Florida Municipal Power Agency	Yes	
IRC Standards Review Committee	Yes	
ACES Standards Collaborators	Yes	We agree with the changes.
Southern Company: Southern Company Services, Inc.; Alabama Power Company; Southern Company Generation, Southern Company Generation and Energy Marketing	Yes	The drafting team has identified the appropriate aggregation point for dispersed power producing resources.
Bonneville Power Administration	Yes	This approach relies on maintenance practices of individual generators and collector systems before reaching the aggregation points as provided by the generator owner. This is in their best interest and in the best interest of the industry.
Volkmann COnsulting, Inc	Yes	
American Electric Power	Yes	
Manitoba Hydro	Yes	
Texas Reliability Entity	Yes	
Ameren	Yes	Ameren adopts the SERC PCS comments by reference
First Wind	Yes	Applicability is adequate for reliability.
Acciona Energy North America Corporation	Yes	

Organization	Yes or No	Question 1 Comment
Georgia Transmission Corporation	Yes	
Salt River Project	Yes	
Tri-State Generation and Transmission Association, Inc.	Yes	4.2.5 is written strangely. "Protection Systems for the following BES generator Facilities not identified through Inclusion I4 of the BES definition" reads better.
Sacramento Municipal Utility District	Yes	Please clarify whether Protection System Maintenance only applies to the aggregate transformers, but not the individual wind generators and its respective step-up transformers.

2. Do you agree with the revisions made in proposed PRC-005-3(X) to clarify applicability of PRC-005-3 to dispersed power producing resources included in the BES through Inclusion I4 of the BES definition? If not, please provide technical rationale for your disagreement along with suggested language changes.

Summary Consideration: The SDT thanks all commenters for their input and refers the reader to the summary response above.

Organization	Yes or No	Question 2 Comment
MRO NSRF	No	See comments per question 1.
Dominion	No	Dominion recommends revising 4.2.5 to read "Protection Systems for the following BES generator Facilities identified through Inclusions I2 and I3 of the BES definition:" as we believe it is more appropriate to cite how these BES generators are included under this section as opposed to indicating how they are not applicable under this section.
FirstEnergy	No	FirstEnergy abstains as we are not directly impacted by this project. Please see our response to Question #6.
SPP Standards Review Group	No	In order to minimize confusion regarding the use of the term 'Facilities' versus 'facilities' in the Applicability Section, we recommend changing the heading of 4.2 to 'Applicable facilities'.We also suggest that the formatting in 4.2.6 parallel the formatting, or construction, of 4.2.5 in that specifics are listed in 4.2.5 and they are absent in 4.2.6. Or the drafting team could go in the other direction and modify 4.2.5 to match 4.2.6.
EDP Renewables North America LLC	No	For consistency, it should be considered to have PRC-004 and PRC-005 to be applicable at an aggregate of greater than or equal to 75 MVA of BES facilities.

Organization	Yes or No	Question 2 Comment
Wisconsin Public Service Corporation	No	The PRC-005-3(X) facilities sections (4.2.6 and 4.2.6.1) should be clarified and consistent with section 4.2.5. Suggested clarification: 4.2.6 Protection Systems for the following BES dispersed power producing resources identified through Inclusion I4 of the BES definition; excluding the individual resources: 4.2.6.1 Protection Systems that act to trip a common point of connection at 100 kV or above where those resources aggregate to greater than 75 MVA, either directly or via a lockout relay. OR4.2.6.1 Protection Systems that act to trip dispersed power producing resources common point of connection at 100 kV or above where those resources aggregate to greater than 75 MVA, either directly or via lockout relay.
Public Service Enterprise Group	No	The same comments in Q1 apply.
Hydro-Quebec TransEnergie	No	See response in question 1
Idaho Power	No	See discussion in #1.
ISO New England	No	See response for Question 1
Tacke	No	For all three PRC-005 proposed modifications, I think we still need to replace the 75 MVA generator size requirement with the 20 MVA size requirement, for the following reasons:WECC requires dynamic model verification for all units 20 MVA or larger connected at voltages 60 kV and above. This is because WECC members have learned over the years to recognize the significant role that smaller size generators play in system response and stability. Also, the WECC MVWG (Modeling and Validation Work Group) is currently performing a study to determine what is the minimum size generator for which model testing and verification needs to be completed.Also, within the next few years, there will be thousands of MWs of PV solar plants on-line in Central California, a large percentage of which will be small, 20 MW plants. We see about 2,500 MW of 20 MW PV units in the queue for the SGIP, SGIP-TC, WDAT, Clusters 1&2, and Clusters 3&4 in California, all coming on-line

Organization	Yes or No	Question 2 Comment
		between now and 2018.Also, past WECC studies over the years of major outages have shown that generators, and indeed loads, below 100 kV, have played a major role in the impact of outages. In fact, the most accurate duplication of the August 1996 outage, and more recent outages that the WECC MVWG has simulated, have shown that the accuracy of the simulated results of actual system outages is highly affected by the accuracy of the modeled system below 100 kV.
Northeast Power Coordinating Council	Yes	
Arizona Public Service Company	Yes	
Duke energy	Yes	
DTE Electric	Yes	
SERC Protection and Controls Subcommittee	Yes	See comments with Question 1.
Florida Municipal Power Agency	Yes	
IRC Standards Review Committee	Yes	
ACES Standards Collaborators	Yes	We agree with the changes.
Southern Company: Southern Company Services, Inc.; Alabama Power Company;	Yes	The drafting team has identified the appropriate aggregation point for dispersed power producing resources.

Organization	Yes or No	Question 2 Comment
Southern Company Generation, Southern Company Generation and Energy Marketing		
Bonneville Power Administration	Yes	This approach relies on maintenance practices of individual generators and collector systems before reaching the aggregation points as provided by the generator owner. This is in their best interest and in the best interest of the industry.
Volkmann COnsulting, Inc	Yes	
American Electric Power	Yes	
Manitoba Hydro	Yes	
Texas Reliability Entity	Yes	
Ameren	Yes	Ameren adopts the SERC PCS comments by reference
First Wind	Yes	Applicability is adequate for reliability.
Acciona Energy North America Corporation	Yes	
Georgia Transmission Corporation	Yes	The only comments I would suggest are fixing the wording in the Automatic Reclosing section 4.2.7.2 of PRC-005-3/PRC-005-X to refer to section 4.2.7.1 instead of 4.2.6.1. It appears this change was simply overlooked.
Salt River Project	Yes	

Organization	Yes or No	Question 2 Comment
Tri-State Generation and Transmission Association, Inc.	Yes	4.2.5 is written strangely. "Protection Systems for the following BES generator Facilities not identified through Inclusion I4 of the BES definition" reads better.
Sacramento Municipal Utility District	Yes	

3. Do you agree with the revisions made in proposed PRC-005-X(X) to clarify applicability of PRC-005-X (the version of PRC-005 containing revisions to address Sudden Pressure relays, being developed in Project 2007-17.1) to dispersed power-producing resources included in the BES through Inclusion I4 of the BES definition? If not, please provide technical rationale for your disagreement along with suggested language changes

Summary Consideration: The SDT thanks all commenters for their input and refers the reader to the summary response above.

Organization	Yes or No	Question 3 Comment
MRO NSRF	No	See comments per question 1.
Dominion	No	Dominion recommends revising 4.2.5 to read "Protection Systems for the following BES generator Facilities identified through Inclusions I2 and I3 of the BES definition:" as we believe it is more appropriate to cite how these BES generators are included under this section as opposed to indicating how they are not applicable under this section.
FirstEnergy	No	FirstEnergy abstains as we are not directly impacted by this project. Please see our response to Question #6.
SPP Standards Review Group	No	Shouldn't the reference to PRC-005-3 in the 2nd line under the Description of Current Draft be to PRC-005-4?The redline version shows a Rationale Box with the Introduction Section. This box, even though it contains redline changes, is not included in the clean version. Were the redline changes holdovers from a previous version and should not have been shown in this redline or were they supposed to be included in the clean version?In order to minimize confusion regarding the use of the term 'Facilities' versus 'facilities' in the Applicability Section, we recommend changing the heading of 4.2 to 'Applicable facilities'.The page header includes the PRC-005-4(X) label while within the standard itself it is shown as PRC-005-X. Which is correct?We would also suggest that the formatting in 4.2.6 parallel the formatting, or construction, of 4.2.5 in that specifics are listed in 4.2.5 and they are absent in 4.2.6. Or the drafting team could go in the other direction and modify

Organization	Yes or No	Question 3 Comment
		4.2.5 to match 4.2.6.The Rationale Boxes for 4.2.5 and 4.2.6 cover-up text. The boxes need to be moved such that they do not cover-up any text.
EDP Renewables North America LLC	No	For consistency, it should be considered to have PRC-004 and PRC-005 to be applicable at an aggregate of greater than or equal to 75 MVA of BES facilities.
Wisconsin Public Service Corporation	No	The PRC-005-X(X) facilities sections (4.2.6 and 4.2.6.1) should be clarified and consistent with section 4.2.5. Suggested clarification: 4.2.6 Protection Systems for the following BES dispersed power producing resources identified through Inclusion I4 of the BES definition; excluding the individual resources: 4.2.6.1 Protection Systems that act to trip a common point of connection at 100 kV or above where those resources aggregate to greater than 75 MVA, either directly or via a lockout relay. OR4.2.6.1 Protection Systems that act to trip dispersed power producing resources common point of connection at 100 kV or above where those resources aggregate to greater than 75 MVA, either directly or via lockout relay. In addition, there should be further clarification surrounding the inclusion/exclusion of the sudden pressure relay.
Public Service Enterprise Group	No	The same comments in Q1 apply.
Idaho Power	No	See discussion in #1.
ISO New England	No	See response for Question 1
Salt River Project	No	Sudden pressure relays are not “necessary”, in fact, older transformers will likely not have them. What is necessary for “reliable operation” as defined in the statute are the differential relays, overcurrent relays, etc., that are there to clear a major phase to phase or phase to ground fault that if left uncleared can cause instability. A sudden pressure relay is there primarily for equipment health monitoring, e.g., detecting a turn-to-turn failure, not a phase to ground or phase to phase fault. If a sudden pressure relay fails to operate, there is no threat to BPS reliability since the differential relay / overcurrent relays are there if the fault develops into a major phase to ground or phase to phase fault.
Tacke	No	For all three PRC-005 proposed modifications, I think we still need to replace the 75 MVA generator size requirement with the 20 MVA size requirement, for the following reasons:WECC requires dynamic model verification for all units 20 MVA or larger connected at voltages 60 kV and above. This is because WECC members have learned over the years to recognize the significant role that smaller size generators play in system response and stability. Also, the WECC MVWG (Modeling and Validation Work Group) is currently performing a study to determine what is the minimum size generator for which model testing and verification needs to be completed.Also, within the next few years, there will be thousands of MWs of PV solar plants on-line in Central California, a large

Organization	Yes or No	Question 3 Comment
		percentage of which will be small, 20 MW plants. We see about 2,500 MW of 20 MW PV units in the queue for the SGIP, SGIP-TC, WDAT, Clusters 1&2, and Clusters 3&4 in California, all coming on-line between now and 2018.Also, past WECC studies over the years of major outages have shown that generators, and indeed loads, below 100 kV, have played a major role in the impact of outages. In fact, the most accurate duplication of the August 1996 outage, and more recent outages that the WECC MVWG has simulated, have shown that the accuracy of the simulated results of actual system outages is highly affected by the accuracy of the modeled system below 100 kV.
Northeast Power Coordinating Council	Yes	
Arizona Public Service Company	Yes	
Duke energy	Yes	
DTE Electric	Yes	
SERC Protection and Controls Subcommittee	Yes	See comments with Question 1.
Florida Municipal Power Agency	Yes	
IRC Standards Review Committee	Yes	
ACES Standards Collaborators	Yes	We agree with the changes.
Bonneville Power Administration	Yes	This approach relies on maintenance practices of individual generators and collector systems before reaching the aggregation points as provided by the generator owner. This is in their best interest and in the best interest of the industry.
Volkmann COnsulting, Inc	Yes	
American Electric Power	Yes	Was the omission of sudden pressure relays for dispersed generation resources under PRC-005-X Applicability 4.2.6 intentional? In light of the FERC directive associated with SPRs, we are unsure if FERC will accept a version of the standard that does not require testing of SPRs for transformers connected between the point that the resources aggregate to greater than 75 MVA and the point of interconnection.
Manitoba Hydro	Yes	
Texas Reliability Entity	Yes	

Organization	Yes or No	Question 3 Comment
Ameren	Yes	Ameren adopts the SERC PCS comments by reference
First Wind	Yes	Applicability is adequate for reliability.
Acciona Energy North America Corporation	Yes	
Georgia Transmission Corporation	Yes	The only comments I would suggest are fixing the wording in the Automatic Reclosing section 4.2.7.2 of PRC-005-3/PRC-005-X to refer to section 4.2.7.1 instead of 4.2.6.1. It appears this change was simply overlooked.
Tri-State Generation and Transmission Association, Inc.	Yes	4.2.5 is written strangely. "Protection Systems for the following BES generator Facilities not identified through Inclusion I4 of the BES definition" reads better.
Sacramento Municipal Utility District	Yes	

4. Do you agree with the revisions made in proposed VAR-002-2b(X) to clarify applicability of VAR-002-2b to dispersed power producing resources included in the BES through Inclusion I4 of the BES definition? If not, please provide technical rationale for your disagreement along with suggested language

Summary Consideration: The SDT thanks all commenters for their input and refers the reader to the summary response above.

Organization	Yes or No	Question 4 Comment
MRO NSRF	No	The NSRF agrees with the proposed Requirements but has issues with the associated Rational for Footnote 5 in R4, Part 4.1, note that Transmission Provider should be Transmission Planner. The auxiliary transformers stated in R4.1 are usually transformers that provide station services to the generator. The first sentence of the Ration is correct. The second sentence is out of line since it is directed to the collector system (34.5kV), this should be deleted. This rewrite will provide simple clarity that the foot note is trying to provide.
FirstEnergy	No	FirstEnergy abstains as we are not directly impacted by this project. Please see our response to Question #6.
SPP Standards Review Group	No	References to R4 and R5 in the Description of Current Draft Section should be to R3 and R4. Also delete the BES in front of Bulk Electric Systems in the line in which the references are made.The proposed change to Requirement R3, Part 3.1 is okay as long as the number of individual units in an aggregated site is not detrimental to the overall operation of the entire site. In that case, the site status, for the entire aggregated facility, should be reported. If this is the intent of Part 3.2, it needs additional clarification to make it stand out.The Rationale Box for Footnote 5

Organization	Yes or No	Question 4 Comment
		references the Transmission Provider and in one instance only references Transmission. We believe these references should be to the Transmission Planner as indicated in Requirement R4.
Volkmann COnsulting, Inc	No	The change is neither consistent with the delineation in PRC-004 / 5 nor inclusive of the dispersed generation issue. My interpretation is that VAR-002 change only address change in reactive capability and does not address automatic voltage control and status at each generator site. VAR-002 should be written explicitly to only applicable at the point of aggregation to 75 MVA with the transmission system.
Public Service Enterprise Group	No	How does one interpret the added "bullet" in R3? The new bullet statement belongs in the Applicability section. Furthermore, the statement creates a reliability gap between I4 generators and I2 generators. It also violates Section 303 of the NERC Rules of Procedure, paragraph 1 that states: "Competition - A Reliability Standard shall not give any market participant an unfair competitive advantage." We suggest the following addition to the bullet to correct both issues (added language is CAPITALIZED): ".... Bulk Electric Definition; HOWEVER, REPORTING CHANGES ARE REQUIRED AT THE POINT THAT INDIVIDUAL INCLUSON I4 BES GENERATORS AGGREGATE TO GREATER THAN 20MVA."
Hydro-Quebec TransEnergie	No	See response in question 1
Tacke	No	For both VAR-002 proposed modifications, I don't think we should state non-applicability of the Standard for dispersed generation resources indentified through Inclusion I4 of the BES definition, for the following reasons: WECC requires dynamic model verification for all units 20 MVA or larger connected at voltages 60 kV and above. This is because WECC members have learned over the years to recognize the significant role that smaller size generators play in system response and stability. Also, the WECC MVWG (Modeling and Validation Work Group) is currently performing a study to determine what is the minimum size generator for which model testing and verification needs to be completed.Also, within the next few years,

Organization	Yes or No	Question 4 Comment
		there will be thousands of MWs of PV solar plants on-line in Central California, a large percentage of which will be small, 20 MW plants. We see about 2,500 MW of 20 MW PV units in the queue for the SGIP, SGIP-TC, WDAT, Clusters 1&2, and Clusters 3&4 in California, all coming on-line between now and 2018.Also, past WECC studies over the years of major outages have shown that generators, and indeed loads, below 100 kV, have played a major role in the impact of outages. In fact, the most accurate duplication of the August 1996 outage, and more recent outages that the WECC MVWG has simulated, have shown that the accuracy of the simulated results of actual system outages is highly affected by the accuracy of the modeled system below 100 kV.
Northeast Power Coordinating Council	Yes	
Arizona Public Service Company	Yes	
Dominion	Yes	Rationale for R4, need to change Transmission Provider to 'Transmission Planner'.Since this standard is being revised, Dominion suggests that NERC request the SDT to re-align the Measures with the Requirements to develop a more risk-based standard as NERC has proposed going forward.
Duke energy	Yes	Duke Energy suggests the following revision:"Reporting of status or capability changes is not applicable to the individual dispersed power producing resources identified through Inclusion I4 (a) of the Bulk Electric System definition."We believe the addition of "I4 (a)" helps clarify the applicability for individual dispersed power producing resources.
DTE Electric	Yes	

Organization	Yes or No	Question 4 Comment
ACES Standards Collaborators	Yes	(1) We agree with the proposed changes. However, we believe additional changes are needed to the standard.(2) Requirement R1 needs to be modified as well. Because each individual generating unit of a dispersed generation site that exceeds the 75 MVA threshold is included as part of the BES, R1 would apply and would require each of these units to be operated with AVR in voltage regulating mode. These units usually do not have an AVR and are not capable of controlling voltage. Rather, they rely on other voltage regulating equipment such as SVC or capacitor banks to control voltage at the interconnecting point. Thus, we request that R1 is modified so that is not applicable to the individual units of the dispersed power producing resources. (3) Similar to R1, R2 should also be modified to reflect that these dispersed generation resources often do not have AVRs and must rely on other voltage regulating equipment to control voltage at the interconnecting point. Thus, we request that R2 is modified so that is not applicable to the individual units of the dispersed power producing resources.
Southern Company: Southern Company Services, Inc.; Alabama Power Company; Southern Company Generation, Southern Company Generation and Energy Marketing	Yes	
Bonneville Power Administration	Yes	
EDP Renewables North America LLC	Yes	

Organization	Yes or No	Question 4 Comment
Wisconsin Public Service Corporation	Yes	
ReliabilityFirst	Yes	ReliabilityFirst submits the following comments for consideration:1. VAR-002-2b(X) Requirement 3, Part 3.1 - The exclusion for dispersed power producing resources is shown as a bullet point and bullet points are historically described as “OR” statements in NERC Reliability Standards. ReliabilityFirst recommends adding the bulleted language to the end of Requirement 3, Part 3.1 as follows: “A status or capability change on any generator Reactive Power resource, including the status of each automatic voltage regulator and power system stabilizer and the expected duration of the change in status or capability. Reporting of status or capability changes is not applicable to the individual dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition.”
American Electric Power	Yes	
Manitoba Hydro	Yes	
Idaho Power	Yes	
Texas Reliability Entity	Yes	
Ameren	Yes	
First Wind	Yes	
Acciona Energy North America Corporation	Yes	
Salt River Project	Yes	

Organization	Yes or No	Question 4 Comment
Tri-State Generation and Transmission Association, Inc.	Yes	
Sacramento Municipal Utility District	Yes	: Please clarify that Protection System Misoperations of the individual wind generators affects only themselves, but will not cause an aggregate effect with other wind turbines. For example, this standard only applies to aggregate substation transformers. There is a concern that still lies on meeting requirements R1 and R2, operating in voltage control mode. Some existing wind generators operate in a power factor control mode, not voltage control mode, and is not capable of operating in either voltage or power factor control mode.
SERC Protection and Controls Subcommittee		no comment
Florida Municipal Power Agency		In the rationale for Footnote 5 in Requirement R4, Part 4.1 the references to Transmission Provider should be Transmission Planner. The reference to "Transmission" should be Transmission Planner.
IRC Standards Review Committee		The proposed change to Requirement R3, Part 3.1 is okay as long as the net change to number of the individual units in an aggregated site is not detrimental to affect the overall operation of the entire site or the proper management and control of reactive resources of the site. In that case, the site status, for the entire aggregated facility, should be reported. If this is the intent of Part 3.2 is intended to cover the latter situation (where the impact of changes to individual disperse generating sources is reported at the aggregate level), then Part 3.2 needs , it needs additional to be expanded to clarify it. clarification to make it stand out. Otherwise, the impact of changes to individual units will not be identified and reported for control to meet the objective of control and management of reactive resources.The Rationale Box for Footnote 5 references the Transmission Provider and in one instance only references

Organization	Yes or No	Question 4 Comment
		Transmission. We believe these references should be to the Transmission Planner as indicated in Requirement R4.

5. Do you agree with the revisions made in proposed VAR-002-4 to clarify applicability of VAR-002-3 to dispersed power producing resources included in the BES through Inclusion I4 of the BES definition? If not, please provide technical rationale for your disagreement along with suggested language changes

Summary Consideration: The SDT thanks all commenters for their input and refers the reader to the summary response above.

Organization	Yes or No	Question 5 Comment
MRO NSRF	No	The bulleted item under R4 is too wordy and recommend the following rewrite to provide clarity; “Reporting of reactive capability changes is not applicable to (delete “the”) individual (delete “for “) dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition.
FirstEnergy	No	FirstEnergy abstains as we are not directly impacted by this project. Please see our response to Question #6.
SPP Standards Review Group	No	Since VAR-002-4 only contains minor technical revisions dealing with the applicability specifically for Requirements R4 and R5, is it feasible to believe that VAR-002-4 will be approved before VAR-002-3? The special provisions for ‘the later of’ aren’t

Organization	Yes or No	Question 5 Comment
		needed. Simply go with the normal Effective Date language. Additionally, the way this section is currently worded in those jurisdictions requiring governmental approval, the standard becomes effective immediately upon governmental approval. Yet, if governmental approval is not required, the standard would become effective the first day of the first calendar quarter following NERC Board approval. The concept of 'the first day of the first calendar quarter following approval' needs to be added to the governmental approval clause.The same argument applies to the proposed change for Requirement R4 as we put forth in response to the proposed change to Requirement R3, Part 3.1 in VAR-002-2b(X) in Question 4. The proposal is okay provided that only lost capability of a few individual units does not detract from the overall capability of the entire aggregated site. If the capability of the entire site is degraded the notification should be made. Also, insert the term 'generator' between 'individual' and 'for' in the bullet under Requirement R4.Requirement R5 is a duplicate of Requirement R4 and needs to be replaced with the correct wording from VAR-002-2b(X), Requirement R4.The clean version is missing the Rationale Box for Footnote 5.
Volkmann COnsulting, Inc	No	see question 4
Public Service Enterprise Group	No	The same comments in Q3 apply, except replace "R3" with "R4."
Hydro-Quebec TransEnergie	No	See response in question 1
Ameren	No	(1) Regarding proposed standard VAR-002-4, we believe that some language is missing for requirement R5.1. Shouldn't the requirement state that the Generator Operator needs to provide the information on Tap Settings, Available fixed tap ranges, and Impedance data to the Transmission Operator?(2) We believe that VAR-002-4 should include a 30 day time period to complete R5, as alluded to in M5.

Organization	Yes or No	Question 5 Comment
Acciona Energy North America Corporation	No	I agree with the intent of the SDT, however, the balloted version VAR-002-4 is incorrect.VAR-002-4 R4: added applicability clause is incorrect and miswordedVAR-002-4 R5: Requirement is incorrect and not original requirement from version 3 of this standard
Tacke	No	For both VAR-002 proposed modifications, I don't think we should state non-applicability of the Standard for dispersed generation resources indentified through Inclusion I4 of the BES definition, for the following reasons: WECC requires dynamic model verification for all units 20 MVA or larger connected at voltages 60 kV and above. This is because WECC members have learned over the years to recognize the significant role that smaller size generators play in system response and stability. Also, the WECC MVWG (Modeling and Validation Work Group) is currently performing a study to determine what is the minimum size generator for which model testing and verification needs to be completed.Also, within the next few years, there will be thousands of MWs of PV solar plants on-line in Central California, a large percentage of which will be small, 20 MW plants. We see about 2,500 MW of 20 MW PV units in the queue for the SGIP, SGIP-TC, WDAT, Clusters 1&2, and Clusters 3&4 in California, all coming on-line between now and 2018.Also, past WECC studies over the years of major outages have shown that generators, and indeed loads, below 100 kV, have played a major role in the impact of outages. In fact, the most accurate duplication of the August 1996 outage, and more recent outages that the WECC MVWG has simulated, have shown that the accuracy of the simulated results of actual system outages is highly affected by the accuracy of the modeled system below 100 kV.
Northeast Power Coordinating Council	Yes	
Arizona Public Service Company	Yes	

Organization	Yes or No	Question 5 Comment
Dominion	Yes	Rationale for R5, need to change Transmission Provider to 'Transmission Planner'.
Duke energy	Yes	Duke Energy suggests the following revision:"Reporting of reactive capability changes is not applicable to the individual dispersed power producing resources identified through Inclusion I4 (a) of the Bulk Electric System definition."We believe the addition of "I4 (a)" helps clarify the applicability for individual dispersed power producing resources. We would also like to point out an apparent typo in R4 and suggest modifying "individual for dispersed power producing resources" to" individual dispersed power producing resources". The removal of "for" provides consistency with the language in VAR-002-2b.
DTE Electric	Yes	
IRC Standards Review Committee	Yes	
ACES Standards Collaborators	Yes	(1) We agree with the proposed changes. However, we believe additional changes are needed to the standard.(2) Requirement R1 needs to be modified as well. Because each individual generating unit of a dispersed generation site that exceeds the 75 MVA threshold is included as part of the BES, R1 would apply and would require each of these units to be operated with AVR in voltage regulating mode. These units usually do not have an AVR and are not capable of controlling voltage. Rather, they rely on other voltage regulating equipment such as SVC or capacitor banks to control voltage at the interconnecting point. Thus, we request that R1 is modified so that is not applicable to the individual units of the dispersed power producing resources. (3) Similar to R1, R2 should also be modified to reflect that these dispersed generation resources often do not have AVRs and must rely on other voltage regulating equipment to control voltage at the interconnecting point. Thus, we request that R2 is modified so that is not applicable to the individual units of the dispersed power producing resources.

Organization	Yes or No	Question 5 Comment
Southern Company: Southern Company Services, Inc.; Alabama Power Company; Southern Company Generation, Southern Company Generation and Energy Marketing	Yes	
Bonneville Power Administration	Yes	
EDP Renewables North America LLC	Yes	
Wisconsin Public Service Corporation	Yes	
American Electric Power	Yes	
Manitoba Hydro	Yes	
Idaho Power	Yes	
Texas Reliability Entity	Yes	1)Texas RE agrees with the change to applicability but points out that there may be an error in the language of R5 of VAR-002-4. Requirement 4 and 5 have the exact same requirement language:"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."Requirement 5

Organization	Yes or No	Question 5 Comment
		goes on to add: “For generator step-up transformers and auxiliary transformers5 with primary voltages equal to or greater than the generator terminal voltage:5.1.1. Tap settings.5.1.2. Available fixed tap ranges.5.1.3. Impedance data. The requirements in VAR-002-2b (R4) and VAR-002-3 (R5) that include the tap settings, ranges and impedance data language have the following requirement language:”The Generator Owner shall provide the following to its associated Transmission Operator and Transmission Planner within 30 calendar days of a request.” Texas RE requests the SDT review the language to assure the correct requirement language is included in Requirement R5 of VAR-002-4.2)It appears that R7 of VAR-002-4 should actually be the Measure for R6, not a Requirement. 3)It appears that VAR-002-2b(X) Requirement R3.1 and VAR-002-4 Requirement R4 map to each other but the exclusion language is slightly different. VAR-002-4, R4 has the word “for” between “individual” and “dispersed power” whereas VAR-002-2b(X) does not. The addition of the word makes the requirement confusing. It may just be a typo but Texas RE wanted to bring this to the attention of the SDT. VAR-002 -2b(X) Requirement R3.1 language: Reporting of status or capability changes is not applicable to the individual dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition. VAR-002-4 Requirement R4 language: Reporting of reactive capability changes is not applicable to the individual for dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition.
First Wind	Yes	
Salt River Project	Yes	
Tri-State Generation and Transmission Association, Inc.	Yes	"R7" should be "M6". The effective date is confusing as written and makes it seem as if the standard would be effective immediately. Was that the SDT's intentions? Since VAR-002-3 is still waiting on FERC approval and is not effective yet the industry should have some time to prepare for VAR-002-4.

Organization	Yes or No	Question 5 Comment
SERC Protection and Controls Subcommittee		no comment
Florida Municipal Power Agency		In the added bullet to R4, the word “for” should be deleted. In the rationale for Footnote 5 in Requirement R5, Part 5.1 the references to Transmission Provider should be deleted. The reference to “Transmission” should be deleted. Although not in the scope of this particular SDT, the reference to Transmission Planner in M5 should be deleted since notification is not required by R5.

6. Do you have any additional comments to assist the DGR SDT in further developing its recommendations?

Summary Consideration: The SDT thanks all commenters for their input and refers the reader to the summary response above.

Organization	Yes or No	Question 6 Comment
Northeast Power Coordinating Council	No	
Arizona Public Service Company	No	
DTE Electric	No	
SERC Protection and Controls Subcommittee	No	The comments expressed herein represent a consensus of the views of the above-named members of the SERC EC Protection and Control Subcommittee only and

Organization	Yes or No	Question 6 Comment
		should not be construed as the position of SERC Reliability Corporation, its board, or its officers.
Florida Municipal Power Agency	No	
ACES Standards Collaborators	No	
Southern Company: Southern Company Services, Inc.; Alabama Power Company; Southern Company Generation, Southern Company Generation and Energy Marketing	No	
Bonneville Power Administration	No	
Wisconsin Public Service Corporation	No	
Volkmann COnsulting, Inc	No	
Public Service Enterprise Group	No	
American Electric Power	No	
Manitoba Hydro	No	

Organization	Yes or No	Question 6 Comment
Hydro-Quebec TransEnergie	No	
Texas Reliability Entity	No	
Ameren	No	
First Wind	No	
Acciona Energy North America Corporation	No	
Salt River Project	No	
Tacke	No	
Tri-State Generation and Transmission Association, Inc.	No	
MRO NSRF	Yes	Please note that NERC has already written a proposed Guidance document on these Standards, including PRC-004. The NSRF, request that the SDT coordinate with NERC so that any Standard and Guidance document complement each other.
Dominion	Yes	Dominion, from a philosophical perspective, cannot support a continent-wide standard (VAR-002) that does not grant a waiver (or waivers) where one or more approved regional standard exists. We cite the following as reason supporting this philosophy; PRC-006, Docket # RM11-20 - In Order No. 763 (issued on May 7, 2012), the Commission directed NERC to submit a Compliance Filing regarding several aspects including how it will address the Commission's directive to establish a schedule by the planning coordinator to comply with PRC-006-1 Requirement R9. In its compliance filing, NERC stated that an entity must be compliant with both the continent wide PRC-006 Standard and the regional standard proposed by SERC in

Organization	Yes or No	Question 6 Comment
		Docket No. RM12-9. Dominion intervened requesting that the Commission modify Requirement R6 to require each UFLS entity in the SERC Region to implement changes to the UFLS scheme within the lesser of 18 months of notification by the planning coordinator, or the schedule established by the planning coordinator. In reply to SERC's responsive comments, Dominion disagrees that its concerns have been adequately addressed. Dominion states that "it is unjust to hold a registered entity responsible for compliance to any requirement within a reliability standard where such compliance is dependent upon that registered entity having also read, and taken into consideration, all statements issued by FERC, NERC and the Regional Entity. The Commission declined Dominion's request and instead affirmed the interpretation as set forth in NERC and SERC's comments.PRC-002-2 - NPCC received approval of its regional standard (PRC-002-NPCC-01) in October 2011. That standard also contained an implementation plan which provides staggered effective dates, i.e., the date on which applicable entities are subject to mandatory compliance, with full compliance required within four years of regulatory approval. During the comment period, Dominion stated potential for conflict between the approved regional standard and the draft continent-wide standard, and also noted that registered entities in that region are 2 years into the 4 year implementation which creates uncertainty for NPCC applicable entities. The drafting team's response did not adequately address Dominion's concerns.Dominion does not agree with the response provided by the SDT relative to comments related to PRC-006, specifically the regional (NPCC and SERC) versions. Both of these approved regional standards apply to Generator Owner and we therefore agree that the SDT should include the continent wide standard in its review.
Duke energy	Yes	PRC-005 Implementation Plans: We suggest removing "first day following" in all the PRC-005 implementation plans. It appears that as written, there could be a gap between the effective date and retirement date of these standards.VAR-002-2b RSAW : We suggest adding I4 (a) to the R3 Note To Auditor Section of the RSAW for consistency with our comments to Question 4 as follows:"Requirement R3.1 is not applicable to individual dispersed power producing resources identified through

Organization	Yes or No	Question 6 Comment
		Inclusion I4 (a) of the Bulk Electric System definition. Entity assertions regarding applicability of Requirement R3.1 should be supported by evidence such as one-line diagrams, nameplate ratings, manufacturer information, or BES inclusion documentation available at the Regional Entity."VAR-002-3 RSAW : We suggest adding I4 (a) to the R4 Note To Auditor Section of the RSAW with our comments to Question 5 as follows:"Requirement R4 is not applicable to the individual dispersed power producing resources identified through Inclusion I4 (a) of the Bulk Electric System definition. Entity assertions regarding applicability of Requirement R4 should be supported by evidence such as one-line diagrams, nameplate ratings, manufacturer information, commissioning tests, etc."
FirstEnergy	Yes	FirstEnergy abstains as we are not directly impacted by this project. We question the efficiency of modifying several NERC Reliability Standards in lieu of potentially adjusting the NERC BES definition which may more effectively address the concerns. Additionally there are other revisions to the NERC BES definition needed in regard to generation assets. As written, there is inequality in the NERC BES definition for traditional generation resources versus dispersed generation. A single traditional unit of 25 MVA must meet all NERC Reliability Standards that apply to Generator Owners yet for the dispersed generation they are only subject to the extent that they total 75 MVA or more.When there are standards before FERC pending regulatory approval, all subsequent revisions should be based on the latest NERC Board approved version. It is our opinion that the approach taken to modify and post for ballot several versions of the same standard is inefficient, overly complicated and unnecessarily causes industry confusion. We suggest that the NERC Standards Committee reassess the need to make this a standalone project and work the intended revisions into current ongoing projects.
SPP Standards Review Group	Yes	The various Implementation Plans for each version of PRC-005 are cross referenced in the Implementation Plans for PRC-005-2(X), PRC-005-3(X) and PRC-005-X(X) in this project. We suggest a change in language to an item in the Background Section of each of those referenced Implementation Plans. We propose the following: '2. For

Organization	Yes or No	Question 6 Comment
		entities not presently performing a maintenance activity or using longer intervals than the maximum allowable intervals established in the proposed standard, it is unrealistic for those entities to be immediately compliant with the new activities or intervals. Further, entities should be allowed to become compliant in such a way as to facilitate a continuing maintenance program. Those entities which now fall under the requirements of the standard due to BES definition changes would have twenty-four months from the applicable effective date to demonstrate compliance.' This would eliminate the potential for a repeat of the fiasco of a few years back associated with implementation of PRC-005-1 in which evidence of compliance was required prior to the effective date of the standard. There is inconsistency among the proposed standards on the term dispersed power producing facilities. In some instances power producing is hyphenated, in others it is not. In some instances facilities is capitalized, in others it is not. The SDT needs to determine which is correct and stick to it.There is inconsistency among the proposed standards on the use of the terms 75 MVA and 100 kV. In some instances they are shown with the space and in others they are shown without the space as 75MVA and 100kV. The SDT, again, needs to determine which is correct and stick to it.
ISO New England	Yes	In PRC-005-2(X), under A.2, the number "2" should not have been deleted and the letter "X" should be in parenthesis as it is shown in the header.In PRC-005-2(X), and VAR-002-2b(X), under D. Compliance 1.1 - It is not necessary to repeat the definition of Compliance Enforcement Authority. A reference to the NERC Rules of Procedure is sufficient. The benefit is that, if the definition ever changes there, it will not have to be changed here. Therefore, 1.1 under Compliance should simply say: "Compliance Enforcement Authority" has the meaning ascribed to it in the NERC Rules of Procedure.
Georgia Transmission Corporation	Yes	The only comments I would suggest are fixing the wording in the Automatic Reclosing section 4.2.7.2 of PRC-005-3/PRC-005-X to refer to section 4.2.7.1 instead of 4.2.6.1. It appears this change was simply overlooked.

Organization	Yes or No	Question 6 Comment
ITC	Yes	Regarding VAR-002, ITC makes the following comments:The Standard should define dispersed power producing resource. While in a practical sense this is a facility comprised of wind turbines or PV inverters, offering exclusions from Requirements based on an undefined criteria is not a good practice.R4 - ITC recommends removal of the sub-bullet under R4 excluding the generators identified through Inclusion I4. The exclusion using BES I4 is confusing and may conflict with existing standard VAR-001-4. A non-BES unit or several non-BES units combined together could have an impact on the BES and thus removing the generators from VAR-002-4 R4 solely based on Inclusion I4 may be detrimental to reliability. Per VAR-001-4 R4, the TOP is required to specify criteria that will exempt generators from following a voltage or reactive power schedule and associated notification requirements. Therefore, ITC recommends that VAR-002-3 R4 should be reworded as “Unless exempted by the Transmission Operator, 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 3”. The TOP can determine what notifications are necessary and be more specific depending on the needs of the system or individual facility. For example, a TOP exemption criteria may contain: “Dispersed power producing facilities are exempt from reactive capability change notifications less than 10% of the total aggregate lagging reactive capability as measured at the POI at nominal voltage”. TOPs typically will not want to receive individual turbine outage notifications; however, there may be instances where a dispersed power producing resource could lose an individual unit that may affect reliable operations (i.e. large individual units). In addition, the sub-bullet language in VAR-002-4 may be interpreted such that generators not in BES are exempt from reactive capability notifications and, in turn, exempt from following schedules which may be in conflict with VAR-001-4 and potentially impact the reliability of the BES. VAR-001-4 requires the TOP to determine the exemption criteria for generators and ITC recommends that VAR-002-4 be consistent with this practice as the TOP may require non-BES generators to follow a voltage or reactive power schedule based on the collective impact to the BES.R5 - The language in VAR-

Organization	Yes or No	Question 6 Comment
		002-4 R5 is a repeat of the VAR-002-4 R4 language and does not correspond to sub-requirement R5.1 . Replace with appropriate R5 language from VAR-002-3. Similar to R4, the exclusion shouldn't be based on BES I4. ITC recommends the footnote is reworded to: "For dispersed power producing resources, this requirement applies only to those transformers that have at least one winding at the same or higher voltage as the lowest voltage Point of Interconnection location(s)."
Sacramento Municipal Utility District	Yes	Comment 1: These revisions are logical and simply needed to clarify applicability. In fact, not approving these revisions may be detrimental to reliability or not useful to the support of the reliable operation of the BES. Moreover, preparing for implementation under the chance the revisions are not approved is diverting time and resources that could otherwise be devoted to efforts that do contribute to the reliable operation of the BES.Comment 2: Please proceed expeditiously with these revisions and convey such urgency to the approving entities. Although the goal of this effort is to ensure these revisions are approved prior to the June 2016 effective date for newly identified elements under the BES definition, affected entities have no alternative but to expend resources and devote time to plan, prepare and begin compliance related activities well before June 2016.
IRC Standards Review Committee		There are multiple postings of the PRC-005 currently underway, each effort addressing different changes. Although we support and understand the need to adhere to the standards development process for standards projects, each one will have individual postings and ballots. This makes it cumbersome to reference and review layers of changes that may impact the other postings and can lead to confusion and unanticipated voting outcomes. The drafting teams need to explain how each proposed change to PRC-005 is not relevant or impactive on the other.
EDP Renewables North America LLC		Thank you for your time and efforts.

END OF REPORT