

Consideration of Comments

Project 2014-01 Standards Applicability for Dispersed Generation Resources

The Project 2014-01 Standards Applicability for Dispersed Generation Resources (DGR) standards drafting team (SDT) thanks all commenters who submitted comments on the Standard Authorization Request (SAR) for this project. The SAR was posted for a 30-day formal comment period from November 20, 2013 through December 19, 2013. Stakeholders were asked to provide feedback on the SAR through a special electronic comment form. There were 28 sets of comments, including comments from approximately 98 different commenters from approximately 60 companies representing 9 of the 10 Industry Segments as shown in the table on the following pages.

All comments submitted may be reviewed in their original format on the DGR [project page](#).

The DGR SDT has carefully reviewed and considered each stakeholder comment in developing this summary response. In addition, the DGR SDT notes that it will not propose changes to the SAR because it believes the objectives of this project can be adequately addressed within the scope of the SAR.

1. General Scope and Objective of the SAR

Some commenters disagree with the scope and objective of the SAR because they believe, for example, that the Bulk Electric System (BES) definition has addressed the concerns raised in the SAR, and that the SAR is therefore not necessary. The DGR SDT disagrees. While the BES definition has identified certain dispersed power producing resources and their aggregating equipment relative to their inclusion as BES Facilities, it does not take into account that in order to maintain reliability of the BES and ensure appropriate use by entities of compliance and maintenance resources, certain reliability standards and their requirements should not or cannot be applied to dispersed generating facilities in the same manner as traditional generating resources. The SAR is therefore necessary to ensure that the facilities of dispersed generation resources are appropriately assigned responsibility for requirements that actually impact the reliability of the BES, as the characteristics of operating dispersed generation can be unique.

Some commenters would like to include standards not specifically identified in the SAR, for example, certain CIP, FAC, IRO, MOD, PRC, and TOP standards. The DGR SDT agrees that all NERC Standards should be reviewed as part of this project to determine whether changes are justified in order to account for the unique characteristics of dispersed generation, and has undertaken such a review. This review includes standards that are directly applicable to dispersed generation resources. For many standards, the concerns related to applicability to dispersed generation may be resolved through the publication of NERC guidance documentation in lieu of changes to the language of existing or future

reliability standards. The DGR SDT expects that the concerns with the majority of the standards will be addressed through this manner.

Some commenters note that the scope of the SAR should be expanded to include all small generators regardless of types. As noted in the SAR, the DGR SDT will consider those resources that aggregate to a total capacity greater than 75 MVA (gross nameplate rating), and that are connected through a collector system designed primarily for delivering such capacity to a common point of connection at a voltage of 100 kV or above. The DGR SDT believes that the scope of the current SAR allows for consideration of various generation designs when determining their impact upon the reliability of the BES. However, the DGR SDT notes that the impact that dispersed power producing resources (as described in the BES Definition reference document) could potentially have on the reliability of the BES is not necessarily the same impact that a traditional generator, regardless of size, will have, and must account for these differences when considering the applicability of any specific standard requirements.

At least one commenter suggested that for PRC-005 and PRC-023, the SAR needs to include individual turbine equipment dynamic response, such that the aggregate collector system provides the required relay response, not just the protective devices from the point of aggregation. The DGR SDT understands that there are certain reliability standards that may require applicability on Facilities below the point of aggregation at 75 MVA nameplate rating and is considering these functions in reviewing the applicability of specific requirements.

At least one commenter stated that the SAR does not make a coherent technical case for any standards changes. The DGR SDT will evaluate the merits of any proposed changes to the standards within the scope of the SAR and will seek to provide a detailed justification for proposed changes.

At least one commenter made suggestions to improve clarity of the SAR, e.g., changes to the “Industry Need” and “SAR Information” sections of the SAR. The DGR SDT will take those comments into account during the evaluation process to address the goals of this project and the revisions that are recommended.

The DGR SDT acknowledges that a number of comments support the initial scope of the SAR, with some additional recommendations regarding applicability. The DGR SDT feels that the scope of the current SAR allows for consideration of various generation designs when determining their impact upon the reliability of the BES.

2. BES Definition and Transition Period

At least one commenter expressed concern about the transition period for implementation of the BES definition and this project. The DGR SDT gives due consideration to the timing associated with

compliance requirements to include transition periods. This will encompass the transitional period associated with the BES definition.

The DGR SDT notes that the project schedule has been developed to take into account the July 1, 2016 compliance obligation date associated with the revised BES definition.

The DGR SDT also notes that it is focused on reliability in evaluating the standards but will remain mindful of the financial implications of compliance.

Some commenters suggest that the BES definition should be revised. The DGR SDT will not re-evaluate the BES definition, as it is beyond the scope of this project. The goal of the SAR is to revise the applicability of GO/GOP Reliability Standards or the applicability of requirements in GO/GOP Reliability Standards to recognize the unique technical and reliability aspects of dispersed generation, given the revised definition of the BES.

3. Canadian Provincial or other Regulatory Requirements

At least one commenter stated that there may be state regulatory requirements established for dispersed generation that may need to be considered in this project. The DGR SDT can make recommendations to Regional Entities that have approved Regional Reliability Standards; however, the DGR SDT cannot change those regional standards. Responsible entities may in fact be subject to additional regulatory requirements but such requirements are outside of NERC's sanctioned enforcement authorities and cannot be addressed in this process, but may be considered.

At least one commenter raised concerns about Quebec registration requirements. The DGR SDT does not believe it needs to specifically address the registration criteria of Canadian provinces. Although Quebec has unique registration values, it should not impact standard applicability.

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 may 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.¹

¹ The appeals process is in the Standard Processes Manual: http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf

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6. **Are there any other concerns with this SAR that haven't been covered in previous questions?** 33

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	Jeffrey Delgado	Caithness Shepherds Flat, LLC					X																																					
No Additional Responses																																													
2.	Group	Janet Smith, Regulatory Affairs Supervisor	Arizona Public Service Company	X		X		X	X																																				
No Additional Responses																																													
3.	Group	Robert Rhodes	SPP Standards Review Group		X																																								
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2. Stephanie Johnson	Westar Energy	SPP	1, 3, 5, 6																																										
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Group/Individual		Commenter	Organization	Registered Ballot Body Segment											
				1	2	3	4	5	6	7	8	9	10		
4.	Group	Guy Zito	Northeast Power Coordinating Council												X
Additional Member		Additional Organization		Region		Segment Selection									
1.	Alan Adamson	New York State Reliability Council, LLC	NPCC	10											
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 Graffenried	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.	Kathleen Goodman	ISO - New England	NPCC	2											
9.	Michael Jones	National Grid	NPCC	1											
10.	Mark Kenny	Northeast Utilities	NPCC	1											
11.	Christina Koncz	PSEG Power LLC	NPCC	5											
12.	Helen Lainis	Independent Electricity System Operator	NPCC	2											
13.	Michael Lombardi	Northeast Power Coordinating Council	NPCC	10											
14.	Randy MacDonald	New Brunswick Power Transmission	NPCC	9											
15.	Bruce Metruck	New York Power Authority	NPCC	6											
16.	Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5											
17.	Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10											
18.	Robert Pellegrini	The United Illuminating Company	NPCC	1											
19.	Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1											
20.	David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5											
21.	Brian Robinson	Utility Services	NPCC	8											
22.	Ayesha Sabouba	Hydro One Networks Inc.	NPCC	1											
23.	Brian Shanahan	National Grid	NPCC	1											
24.	Wayne Sipperly	New York Power Authority	NPCC	5											
25.	Ben Wu	Orange and Rockland Utilities Inc.	NPCC	1											
26.	Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3											
5.	Group	Russel Mountjoy	MRO NERC Standards Review Forum		X	X	X	X	X	X					
Additional Member		Additional Organization		Region		Segment Selection									
1.	Alice Ireland	Xcel Energy	MRO	1, 3, 5, 6											

Group/Individual	Commenter	Organization	Registered Ballot Body Segment											
			1	2	3	4	5	6	7	8	9	10		
2. Chuck Wicklund	OtterTail 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	Western Area Power Administration	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	Midcontinent Independent System Operator	MRO	2											
11. Mike Brytowski	Great River Energy	MRO	1, 3, 5, 6											
12. Randi Nyholm	Minnesota Power	MRO	1, 5											
13. Scott Bos	Muscatine Power and Water	MRO	1, 3, 5, 6											
14. Terry Harbour	MidAmerican Energy Company	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											
6.	Group	Greg Campoli	ISO/RTO Council Standards Review Committee		X									
Additional Member Additional Organization Region Segment Selection														
1.	Kathleen Goodman	ISO-NE	NPCC	2										
2.	Cheryl Moseley	ERCOT	ERCOT	2										
3.	Al DiCaprio	PJM	RFC	2										
4.	Terry Bilke	MISO	MRO	2										
5.	Charles Yeung	SPP	SPP	2										
6.	Ben Li	IESO	NPCC	2										
7.	Group	Ben Engelby	ACES Standards Collaborators							X				
Additional Member Additional Organization Region Segment Selection														
1.	Paul Jackson	Buckeye Power, Inc.	RFC	3, 4										
2.	Alisha Anker	Prairie Power, Inc.	SERC	3										
3.	Scott Brame	North Carolina Electric Membership Corporation	SERC	1, 3, 4, 5										
4.	Shari Heino	Brazos Electric Power Cooperative, Inc.	ERCOT	1, 5										
5.	Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1										

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
8.	Group	Michael Lowman	Duke Energy	X		X		X	X				
Additional Member Additional Organization Region Segment Selection													
	1. Doug Hils		RFC 1										
	2. Lee Schuster		FRCC 3										
	3. Dale Goodwine		SERC 5										
	4. Greg Cecil		RFC 6										
9.	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 & Standards Development	RFC 4										
	3. Mark Stefaniak	Regulated Marketing	RFC 5										
	4. Barbara Holland		RFC										
	5. Neil Kennings		RFC										
10.	Group	Wayne Johnson	Southern Company: Southern Company Service, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; Southern Company Generation; Southern Company Generation and Energy Marketing	X		X		X	X				
No Additional Responses.													
11.	Group	Andrea Jessup	Bonneville Power Administration	X		X		X	X				
Additional Member Additional Organization Region Segment Selection													
	1. John Anasis	Transmission Technical Operations	WECC 1										
	2. Richard Becker	Transmission Substation Engineering	WECC 1										
	3. Stephen Enyeart	Transmission Customer Service Engineering	WECC 1										
	4. Fred Ojima	Transmission Planning	WECC 1										
	5. Chuck Sheppard	Transmission Vegetation/Access Road Mgmt	WECC 1										
12.	Individual	Thomas Foltz	American Electric Power	X		X		X	X				
13.	Individual	Shirley Mayadewi	Manitoba Hydro	X		X		X	X				

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
14.	Individual	Patricia Metro	National Rural Electric Cooperative Association	X		X	X						
15.	Individual	David Jendras	Ameren	X		X	X	X					
16.	Individual	Silvia Parada Mitchell	NextEra Energy	X		X		X	X				
17.	Individual	Jonathan Meyer	Idaho Power	X									
18.	Individual	Alice Ireland	Xcel Energy	X		X		X	X				
19.	Individual	John Seelke	Public Service Enterprise Group	X		X		X	X				
20.	Individual	Barbara Kedrowski	Wisconsin Electric Power Company			X	X	X					
21.	Individual	Chris Scanlon	Exelon	X		X	X	X	X				
22.	Individual	David Greyerbiehl	Consumers Energy Company			X		X					
23.	Individual	Gary Kruempel	MidAmerican Energy Company	X		X		X	X				
24.	Individual	Bill Fowler	City of Tallahassee (TAL)			X							
25.	Individual	Scott Langston	City of Tallahassee	X									
26.	Individual	Carla L. Holly	BP Wind Energy North America Inc.					X					
27.	Individual	Karen Webb	City of Tallahassee					X					
28.	Individual	Peter A. Heidrich	Florida Reliability Coordinating Council, Inc.										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 DGR SDT thanks all commenters for their input and refers the reader to the summary response above.

Organization	Agree	Supporting Comments of "Entity Name"
NextEra Energy	Agree	MidAmerican
MidAmerican Energy Company		These comments were developed by NextERA (contact Brian Murhpy), MidAmerican, and Exelon

1. Do you agree with the scope and objectives of this SAR? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

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

Organization	Yes or No	Question 1 Comment
National Rural Electric Cooperative Association	No	NRECA does not believe this SAR is necessary. If entities with dispersed generation are registered as a Generator Owner (GO)/Generator Operator (GOP), it is the obligation of the registered entity to determine applicable standards and associated requirements and be able to explain how it complies accordingly. There is no need to modify the applicability of standards to specifically recognize dispersed generation as there is no recognizable reliability gap with the existing applicability of the standards included in this SAR.
Idaho Power	No	The BES definition in process has addressed the concerns raised in the SAR (in our opinion). Application of Standards applies to BES elements unless specifically excluded.
Public Service Enterprise Group	No	The SAR relies upon the phase 2 BES definition, as recently approved by the ballot body, but which has yet to be approved by the NERC Board or FERC. Under this definition, traditional generators at a site that exceed 75 MVA in aggregate as well as the all the equipment from terminals of each generator to the connection point with the BES are included in BES. Dispersed generators are treated differently. The individual dispersed generators are part of the BES if they are at a site where their aggregate nameplate capacity exceeds 75 MVA and they are connected to the BES; however, only equipment that delivers capacity from the point where those resources aggregate to greater than 75 MVA are included in the BES. Stated differently, traditional generators are contiguous with the BES, from the individual BES generators to their connection to the BES. Dispersed generators are not contiguous with the BES - the equipment that aggregate their output prior to it exceeding 75 MVA is excluded. These exclusions create a gap between dispersed BES generators and the BES they connect to. All generators should be treated comparably. The Eastern Interconnection Reliability

Organization	Yes or No	Question 1 Comment
		<p>Assessment Group (ERAG) manual supports our recommendation regarding inclusion equipment for dispersed generators. Wind farm modeling, as specified in the ERAG manual, (https://first.org/reliability/easterninterconnectionreliabilityassessmentgroup/mmwg/Documents/MMWG%20Procedure%20Manual%20V10.pdf) requires a high level of detail - see p. 30, item 6, which states: "Wind Farms - Include all 34.5 kV collector bus(es) and the main facility step-up transformer(s) from 34.5 kV to transmission voltage, as well as one 0.600 kV (or whatever the wind generator nominal voltage is) level bus off each collector bus with a lumped generator and lumped GSU representing the aggregate of the wind turbines attached to that collector bus and their GSUs." Thus, the ERAG manual requires modeling of non-BES Elements under phase 2 BES definition - see the BES Webinar slides nos. 5-7. (http://www.nerc.com/pa/Stand/WebinarLibrary/bes_phase2_third_posting_20131010_webinar_final.pdf) Setting aside our phase 2 definition concerns, the SAR does not make a coherent technical case for any standards changes. As an example, the justification for a change in PRC-005-2 has contradicting statements: "Manufacturers of dispersed generation turbines and solar panels recommend against specific testing and maintenance regimes for protection and control equipment at the dispersed generation turbine and panel level. In fact it is counterproductive to implement protection and control at the individual turbine, solar panel, or unit level. Instead this is best done at an aggregated level." In the first sentence, it appears that manufacturers install protection and control equipment at the "dispersed generation turbine and panel level," yet the next sentence states that "it is counterproductive to implement protection and control at the individual turbine, solar panel, or unit level." Which is it? During the balloting of PRC-005-2, no comments were submitted to the drafting team regarding the changes proposed in the SAR for PRC-005-2. Yet only a year after the final ballot on PRC-005-2, the SAR proposes changes to PRC-005-2 (and other standards) because the phase 2 definition, according to the SAR, would result in BES equipment at "dispersed generation facilities that if included under certain Reliability Standards may result in a detriment to reliability or be technically unsound and not useful to the support of the reliable operation of the BES." We believe that dispersed generators will have less equipment, not more, under the proposed BES definition because of the excluded equipment under that definition. Finally, there has been no justification put forth that would justify different</p>

Organization	Yes or No	Question 1 Comment
		treatment of dispersed generation from traditional generation. See our remarks in questions 2 and 6 below.
Wisconsin Electric Power Company	No	<p>The SAR needs to include applicability to CIP-002-5, proposed for the identification of BES Cyber Assets and BES Cyber Systems. If individual wind turbines are included in the BES, those cyber assets which support their operation (monitoring and control functions local to each turbine) would become BES Cyber Systems subject to some level of compliance requirements of the CIP v5 standards. The SAR needs to include all the CIP version 5 standards, including CIP-010 and CIP-011. Additionally, these standards need to be listed: PRC-001/027 - Coordination for distributed resources needs to be accomplished with the collector system of the distributed resource, not with the transmission system. The collector system needs to be coordinated with the transmission system, however, the BES definition specifically excludes collector system equipment at less than 75 MVA from being included in the BES. PRC-024 - In most cases most distributed resources are many identical units. It would seem reasonable to document the relay data for one unit and then use it for many. PRC-019 - Voltage control for some types of dispersed generating facilities is accomplished by a controller that is able to adjust either generating unit controls or discrete reactive components to provide transmission system voltage adjustment. The PRC-019 standard should be modified to allow coordination with this type of control for dispersed generation facilities under the requirements of the standard. MOD 012/032 - In most cases most distributed resources are many identical units. It would seem reasonable to provide an example model of one resource and then use it for many. MOD 025 & 026 and 027 - In most cases most distributed resources are many identical units. It would seem reasonable to validate one unit and then use the results for many.</p>
Florida Reliability Coordinating Council, Inc.	No	<p>The SAR should not be limited to dispersed power producing resources only. A significant issue that will prove to derail this project is the potential inequitable treatment of generation. The scope should include all small generators regardless of fuel source or prime mover force. The scope should further identify small package style units that are typically considered 'run to fail' units. Provisions within the 'Applicability' of the appropriate Reliability Standards that take</p>

Organization	Yes or No	Question 1 Comment
		into account these types of units would significantly reduce the compliance obligations for units that simply are replaced (in whole)when a failure occurs.
ACES Standards Collaborators	Yes	We find this SAR timely and necessary to avoid confusion in the application of the revised definition of the Bulk Electric System.
MRO NERC Standards Review Forum	Yes	The SAR indicates several standards that should be considered for modification for dispersed generating units. It also provides for examination of other standards that may need to be similarly modified to accommodate the unique aspects of dispersed generation. In addition the SAR provides an explanation of which types of generation are to be reviewed in this project and this explanation is appropriate to define the scope of the project.
American Electric Power	Yes	AEP would prefer that the solution for applicability of dispersed generation at the turbine or generating unit level would be by adjusting the BES definition accordingly. Creating a new SAR, allowing this topic be discussed within the framework of the BES definition itself, would seem the most direct and efficient way of debating the topic. However, if that cannot be accomplished, AEP supports the effort of this SAR as an alternative (though less desirable) means to accomplish the same goal.
Ameren	Yes	(1) The proposed SAR appears to advocate the GSU as the Element within these standards' applicability, which appears reasonable for a SAR. However, we believe that this conflicts with the BES Definition Phase 2 Reference figures. Our expectation is that the BES Definition would be included in the scope of this SAR.
Xcel Energy	Yes	We strongly support the objective of this SAR.
Exelon	Yes	The SAR indicates several standards that should be considered for modification for dispersed generating units. It also provides for examination of other standards that may need to be similarly modified to accommodate the unique aspects of dispersed generation. In addition the SAR provides an explanation of which types of generation are to be reviewed in this project and this explanation is appropriate to define the scope of the project.

Organization	Yes or No	Question 1 Comment
MidAmerican Energy Company	Yes	The SAR indicates several standards that should be considered for modification for dispersed generating units. It also provides for examination of other standards that may need to be similarly modified to accommodate the unique aspects of dispersed generation. In addition the SAR provides an explanation of which types of generation are to be reviewed in this project and this explanation is appropriate to define the scope of the project.
City of Tallahassee (TAL)	Yes	Should the 75MVA be differentiated for Solar PV and other generating units that have both a DC and AC rating?
City of Tallahassee	Yes	Should the 75MVA be differentiated for Solar PV and other generating units that have both a DC and AC rating?
City of Tallahassee	Yes	Should the 75MVA be differentiated for Solar PV and other generating units that have both a DC and AC rating?
Caithness Shepherds Flat, LLC	Yes	
Arizona Public Service Company	Yes	
SPP Standards Review Group	Yes	
Northeast Power Coordinating Council	Yes	
ISO/RTO Council Standards Review Committee	Yes	

Organization	Yes or No	Question 1 Comment
Duke Energy	Yes	
DTE Electric	Yes	
Southern Company: Southern Company Service, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; Southern Company Generation; Southern Company Generation and Energy Marketing	Yes	
Bonneville Power Administration	Yes	
Manitoba Hydro	Yes	
Consumers Energy Company	Yes	
BP Wind Energy North America Inc.	Yes	

2. Do you agree that the scope of the SAR should be limited to considering revisions necessary to address the unique technical and reliability aspects of dispersed generation resources, or should the scope encompass consideration of changes to standards applicability for all small generation regardless of type? Please provide a technical rationale for your response.

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

Organization	Yes or No	Question 2 Comment
Arizona Public Service Company	No	Scope should be expanded to include all small generators regardless of types. There is no specific reason to not include all. Generally, there is little reliability benefit to BES by applying NERC standards to small generators regardless of the type.
SPP Standards Review Group	No	We believe that this evaluation should be extended to all small generation regardless of type because the impact on the BES would be the same regardless of the source or prime mover of the generation.
ACES Standards Collaborators	No	No, we do not agree that the scope of the SAR should be limited. The scope of the SAR should be to review standards applicable to GO/GOP and to limit the applicability based on the revised definition of the BES. Small generation regardless of type should be included in this review.
Southern Company: Southern Company Service, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; Southern Company Generation; Southern Company	No	We believe the scope should include consideration of changes to standards applicability for all small generation. In particular, individual generators < 75 MVA should be exempted from model validation requirements unless transmission planning studies demonstrate such individual generators are critical to BES reliability. This would significantly reduce the compliance burdens being imposed on many GOs and GOPs and improve the focus on generators that are critical to reliability.

Organization	Yes or No	Question 2 Comment
Generation and Energy Marketing		
Bonneville Power Administration	No	<p>(a) BPA feels that the term “dispersed generation resource” is typically associated with facilities that produce electric power through cogeneration and through renewable resources - such as biomass, solar, hydro, wind, municipal waste, tidal, wave, geothermal, and energy storage. It doesn’t matter which type of resource is used to generate power; what matters is the aggregated output at the point of interconnection, which may have an effect on the electric power system. IEEE Standard 1001-1988 (IEEE Guide for Interfacing Dispersed Storage and Generation Facilities with Electric Utility Systems) and IEEE Standard 1547 (IEEE Standard for Interconnecting distributed Resources with Electric Power Systems) provide information regarding the technical aspects of dispersed generation resources.(b) BPA feels that for PRC-005 & PRC-023, the SAR needs to include individual turbine equipment dynamic response, such that the aggregate collector system provides the required relay response, not just the protective devices from the point of aggregation. It serves no reliability purpose if each turbine internally trips for a system event that requires continuation of the generation in a coordinated manner.(c) BPA feels that FAC-008 requires documentation from the generator to the high side of the main step-up transformer. For dispersed generation, this is the transformer at the main collector transformer. The SAR needs to consider including documentation for the collector system capability. BPA has found that when reactive current was not considered in earlier projects, overloads on some collectors were possible, which limited response to system events.(d) BPA has been requiring a collector system study provided by the generator owner to determine the reactive losses of the generation project and to ensure that reactive requirements are met. BPA has recently developed a collector system performance requirement to demonstrate compliance with reactive capability requirements. BPA recommends that this be added to the scope of the SAR to ensure that the generation in aggregate responds as required for a BES generation project.</p>

Organization	Yes or No	Question 2 Comment
American Electric Power	No	We believe it is preferable, at least initially, for the scope to remain limited to dispersed generation resources.
National Rural Electric Cooperative Association	No	See response to Question 1
Idaho Power	No	I see no need for a SAR.
Public Service Enterprise Group	No	As stated previously, “small generators” (traditional versus dispersed) are not treated comparably in the phase 2 definition - traditional BES generators must be contiguous with the BES but dispersed generators need not be. While we would welcome changes that provide for comparable treatment for small generators, regardless of type, the unequal treatment embedded in the phase 2 definition must be corrected before those changes are considered.
Florida Reliability Coordinating Council, Inc.	No	The scope should include all small generators regardless of fuel source or prime mover force. The scope should further identify small package style units that are typically considered 'run to fail' units. The reliability benefit of a generating facility is based on the MVA output of the unit, not on the fuel source or the prime mover force. Within a generating facility that aggregates to >75 MVA, there is no difference in the reliability benefit of a single wind turbine or a single gas fired turbine with the same MVA nameplate rating.
Caithness Shepherds Flat, LLC	Yes	Caithness Shepherds Flat Wind Farm (CSF), located in Oregon, supports the SAR as written and believes the scope should address dispersed generation resources with collector systems only. In the development of CSF’s NERC compliance program, it became apparent that some GO/GOP applicable Reliability Standards were written with fossil fuel facilities in mind, and not generation resources such as wind. The VAR-002 standard for example, requiring reactive and voltage control of individual generators and notification of the TOP when there is a change in status, would appear to be irrelevant to the TOP, but rather the aggregate MW output at the point

Organization	Yes or No	Question 2 Comment
		of interconnection should be what is relevant. CSF’s wind farm consists of several hundred wind turbines, all < 3 MW in nameplate capacity. The TOP does not need to be notified about individual turbine voltage status, as any loss of voltage control of an individual turbine will not be detected by the TOP. The relevant factor is in the voltage at the point of interconnection which is controlled by a “Wind Farm Management System” WFMS voltage control system. Change in status of the WFMS would be of interest to the TOP, so the standard should allow for this variance.
MRO NERC Standards Review Forum	Yes	The SAR does not specify what types of generation should be included for analysis as “dispersed generation resources. It only refers to those that are a part of a facility that aggregates to 75 MVA or more. As written the SAR is not limited to any particular type of small generation. Under the SAR all types could and should be considered for revision.
ISO/RTO Council Standards Review Committee	Yes	Small generators that do not meet the individual 20 MVA criteria and are not part of the aggregated 75 MVA group that meets the BES inclusion criteria are not regarded BES facilities and therefore do not need to be addressed by this SAR. The scope therefore does not need to be expanded to all small generators.
Duke Energy	Yes	(1) Duke Energy agrees that the scope of the SAR should be limited to Disperse Generation only.
MidAmerican Energy Company	Yes	The SAR does not specify what types of generation should be included for analysis as “dispersed generation resources. It only refers to those that are a part of a facility that aggregates to 75 MVA or more. As written the SAR is not limited to any particular type of small generation. Under the SAR all types could and should be considered for revision.
City of Tallahassee (TAL)	Yes	Dispersed generation should include intermittent power sources such as wind and solar, but also non-intermittent such as WTE, biogas and biomass generation sources.

Organization	Yes or No	Question 2 Comment
City of Tallahassee	Yes	Dispersed generation should include intermittent power sources such as wind and solar, but also non-intermittent such as WTE, biogas and biomass generation sources.
BP Wind Energy North America Inc.	Yes	The scope of the SAR should be limited to considering revisions necessary to address the unique technical and reliability aspects of dispersed generation resources as dispersed generation resources are unique and have operational characteristics that are not similar to most conventional generators, including generators that are considered to be classified as small.
City of Tallahassee	Yes	Dispersed generation should include intermittent power sources such as wind and solar, but also non-intermittent such as waste-to-energy, biogas, and biomass generation sources.
Exelon	Yes	Yes, the SAR should focus on generation resources that are part of a facility that aggregates dispersed resources at 75 MVA or more. We believe the intent is to exclude individual units from certain requirements when those units do not meet the reporting criteria but are part of a facility that aggregates those units at the BES voltage level. We note that the question may lead to confusion. As written the use of "or" appears to be implying there is a choice between "dispersed generation" as used in the first clause of the question and some generation "types" (undefined but commonly understood to refer to fuel source) as used in the second clause. We do not believe the SAR should exclude generation based on fuel type.
DTE Electric	Yes	
Manitoba Hydro	Yes	
Ameren	Yes	
Consumers Energy Company	Yes	

3. Do you agree with the list of standards to be reviewed? If you do not agree, please note specific standards you think should be added to or removed from the list.

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

Organization	Question 3 Comment
American Electric Power	Every standard that involves the GO and/or GOP should be included in the scope of the SAR. This does not imply that all standards should be modified, but the SDT and commenters should be afforded the opportunity to consider the impacts of such changes. For example, PRC-024, PRC-001, CIP-002 through CIP-011, etc. should be considered.
Public Service Enterprise Group	No comments
Southern Company: Southern Company Service, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; Southern Company Generation; Southern Company Generation and Energy Marketing	No. Need to also add those included in the Generator Verification Standard suite, including PRC-019, PRC-024, MOD-025, MOD-026, MOD-027. We are concerned with how certain standard requirements such as VAR-002 R3 can be applied to facilities with multiple “mini” units operating in parallel. For example, in the case of small turbine-generators one or more units operating in manual regulator mode would not have the same impact to the BES as a single large unit. Similar issues exist when some of the other listed standard requirements are applied such as model validation of excitation systems and governors (MOD-026 & MOD-027, as noted above).
Bonneville Power Administration	No. BPA feels that a review of PRC-024 (Generator Frequency and Voltage Protective Relay Settings) needs to be included in the scope of this SAR. Aggregated dispersed generation must be able to ride-through faults and system disturbances the same as other generation resources.

Organization	Question 3 Comment
Wisconsin Electric Power Company	<p>Response from Q1: The SAR needs to include applicability to CIP-002-5, proposed for the identification of BES Cyber Assets and BES Cyber Systems. If individual wind turbines are included in the BES, those cyber assets which support their operation (monitoring and control functions local to each turbine) would become BES Cyber Systems subject to some level of compliance requirements of the CIP v5 standards. The SAR needs to include all the CIP version 5 standards, including CIP-010 and CIP-011. Additionally, these standards need to be listed: PRC-001/027 - Coordination for distributed resources needs to be accomplished with the collector system of the distributed resource, not with the transmission system. The collector system needs to be coordinated with the transmission system, however, the BES definition specifically excludes collector system equipment at less than 75 MVA from being included in the BES. PRC-024 - In most cases most distributed resources are many identical units. It would seem reasonable to document the relay data for one unit and then use it for many. PRC-019 - Voltage control for some types of dispersed generating facilities is accomplished by a controller that is able to adjust either generating unit controls or discrete reactive components to provide transmission system voltage adjustment. The PRC-019 standard should be modified to allow coordination with this type of control for dispersed generation facilities under the requirements of the standard. MOD 012/032 - In most cases most distributed resources are many identical units. It would seem reasonable to provide an example model of one resource and then use it for many. MOD 025 & 026 and 027 - In most cases most distributed resources are many identical units. It would seem reasonable to validate one unit and then use the results for many.</p>
National Rural Electric Cooperative Association	See response to Question 1
MRO NERC Standards Review Forum	<p>The SAR provides a list of several specific standards application to Generator Owners and/or Generator Operators that would be reviewed as part of the project. In addition it proposes a review of several project families (IRO, MOD, PRC and TOP) that would be examined. The specific list is recommended as proposed in the SAR and with the flexibility to review other standards the list as indicated is appropriate. Consideration should be given to an addition to the Attachment in CIP-002 to add an item that would exclude components below the 75MVA aggregation point. The</p>

Organization	Question 3 Comment
	reasoning would be parallel to the other standards addressed in the SAR where the aggregation point would be identified as the point at which the standard would apply. For CIP the result would be that the components below the aggregation point would not have to be addressed, i.e. they would not be high, medium, or low.
Exelon	The SAR provides a list of several specific standards application to Generator Owners and/or Generator Operators that would be reviewed as part of the project. In addition it proposes a review of several project families (IRO,MOD, PRC and TOP) that would be examined. The specific list is recommended as proposed in the SAR and with the flexibility to review other standards the list as indicated is appropriate.
MidAmerican Energy Company	The SAR provides a list of several specific standards application to Generator Owners and/or Generator Operators that would be reviewed as part of the project. In addition it proposes a review of several project families (IRO,MOD, PRC and TOP) that would be examined. The specific list is recommended as proposed in the SAR and with the flexibility to review other standards the list as indicated is appropriate Consideration should be given to an addition to the Attachment in CIP-002 to add an item that would exclude components below the 75MVA aggregation point. The reasoning would be parallel to the other standards addressed in the SAR where the aggregation point would be identified as the point at which the standard would apply. For CIP the result would be that the components below the aggregation point would not have to be addressed, i.e. they would not be high, medium, or low.
ACES Standards Collaborators	We agree with the list of standards to be reviewed. We would like to see flexibility in the scope of standards to be reviewed in the event that another standard is added during the standards development phase.
Xcel Energy	We believe that in addition to the approved standards mentioned in the SAR, NERC should communicate this issue directly to drafting teams working on active projects such as PRC-004-3 or PRC-027-1 to assure that they consider the applicability of their standard relative to dispersed generation and, if it is intended to include dispersed generation as in scope, to assure that correct

Organization	Question 3 Comment
	terminology is used within their draft standard to avoid ambiguity and inconsistencies such as the SAR discusses for use of the term "main step up transformer" in FAC-008-3.
SPP Standards Review Group	While we may agree with the list of standards as presented in the SAR we would encourage the SAR drafting team to not limit itself to just those particular standards. For example, once a drafting team is established and work begins on the project, we don't want the project to be limited by the scope as currently defined in the SAR. We need to factor in some flexibility to go beyond this specific list to capture all those standards/requirements/definitions which may be impacted in this review.
Caithness Shepherds Flat, LLC	Yes
Arizona Public Service Company	Yes
ISO/RTO Council Standards Review Committee	Yes
Consumers Energy Company	Yes
City of Tallahassee (TAL)	yes
City of Tallahassee	Yes
Ameren	Yes, we agree.
Northeast Power Coordinating Council	Yes.

Organization	Question 3 Comment
BP Wind Energy North America Inc.	Yes. We agree with the list of standards to be reviewed; however, we suggest more clarification about which specific IRO, MOD, PRC, and TOP standards would be considered as the SAR currently lists these categories generically.
DTE Electric	YesAs stated in the background information, any relevant standard should be revised as necessary to insure that it is being applied at the point of aggregation.

4. Are you aware of any business practice that will be needed or that will need to be modified as a result of this SAR should it move forward? If yes, please identify the business practice.

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

Organization	Question 4 Comment
Caithness Shepherds Flat, LLC	No
Arizona Public Service Company	No
ISO/RTO Council Standards Review Committee	No
DTE Electric	No
Southern Company: Southern Company Service, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; Southern Company Generation; Southern Company Generation and Energy Marketing	No
Manitoba Hydro	No

Organization	Question 4 Comment
Idaho Power	No
Exelon	No
MidAmerican Energy Company	No
City of Tallahassee	No
Florida Reliability Coordinating Council, Inc.	No
Public Service Enterprise Group	No comments
Northeast Power Coordinating Council	No.
ACES Standards Collaborators	No.
Bonneville Power Administration	No.
American Electric Power	No.
BP Wind Energy North America Inc.	No.
City of Tallahassee (TAL)	No. The City of Tallahassee is not aware of other business practices to be included.
SPP Standards Review Group	Not at this time.

Organization	Question 4 Comment
Consumers Energy Company	<p>The SAR is required at a minimum, but a change to the BES definition is more appropriate. From the comments below submitted during the BES, the BES definition should at minimum be modified to provide consistency between generating resources (I2) and dispersed power producing resources (I4). Generating resources are required to be 20MVA in order to be considered an BES element, while dispersed power producing resources have no size consideration as long as they meet the net total MVA. Consumers Energy has completed studies with an operating wind farms and the loss of individual resources makes no impact the BES. The addition of individual resources does not make improve reliability as they have no effect on the system. The SAR intention is to modify the individual standards to define the requirements for all the additional BES elements that are being added that are not presently addressed in the standards or are against the manufacturers recommendations. While this approach can be used, and is required if the BES definition is not changed. A better method would be to include dispersed power producing resources at a point in which the total affects the BES and not as individual units. Previous Comments on BES definition: The inclusion and the clarification of the inclusion seem to contradict each other. The highlight portion above seems to indicate inclusion only from the point of aggregation of 75MVA or above. This, in most Wind Park cases would include a collector bus but probably not individual wind turbines. However I4 seems to indicate that the case of a Wind Park that has a total aggregation of 75 MVA, all associated equipment including every individual wild turbine would be included. There is inconsistency. If and when Distributed Generation gains saturation is it our intent that whole neighborhoods or industrial parks be considered BES resources? Technical justification should be needed to include resources in the BES, not the other way around. Is there a real expectation that a single collector circuit containing ten, 1.2MW wind turbines can cause cascading or uncontrollable outages of the surrounding system? It is extremely doubtful. We can support the inclusion of equipment where the aggregation of 75 MVA or more connects to the Bulk Electric System at voltages of 100kv or greater. There is a clear indication here that a single contingency can remove the total of the capacity from the system where with this definition as proposed, that is simply not the case.</p>

5. Are you aware of any Canadian provincial or other regulatory requirements that may need to be considered during this project in order to develop a continent-wide approach to the standard(s)? If yes, please identify the jurisdiction and specific regulatory requirements.

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

Organization	Question 5 Comment
SPP Standards Review Group	Although we are not aware of any specific federal regulatory requirements, the drafting team needs to keep in mind that there may be state regulatory requirements established for dispersed generation that may need to be considered in this project.
Idaho Power	N/A
Caithness Shepherds Flat, LLC	No
Arizona Public Service Company	No
ISO/RTO Council Standards Review Committee	No
DTE Electric	No
Southern Company: Southern Company Service, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; Southern Company Generation;	No

Organization	Question 5 Comment
Southern Company Generation and Energy Marketing	
Manitoba Hydro	No
Exelon	No
Consumers Energy Company	No
MidAmerican Energy Company	No
City of Tallahassee	No
Public Service Enterprise Group	No comments
ACES Standards Collaborators	No.
Bonneville Power Administration	No.
American Electric Power	No.
BP Wind Energy North America Inc.	No.
City of Tallahassee (TAL)	No. The City of Tallahassee is not aware of such.

Organization	Question 5 Comment
<p>Northeast Power Coordinating Council</p>	<p>Yes.It must be considered that the operating system in Quebec follows chapter R-6.01 An Act Respecting the Regie de L'Energie, which details:(1) an owner or operator of a facility with a capacity of 44 kV or more connected to an electric power transmission system;(2) an owner or operator of an electric power transmission system;(3) an owner or operator of a production facility with a capacity of 50 megavolt amperes (MVA) or more connected to an electric power transmission system;(4) a distributor with a peak capacity of over 25 megawatts (MW), whose facilities are connected to an electric power transmission system; and(5) a person who uses an electric power transmission system under an electric power transmission service agreement with the electric power carrier or with any other carrier in QuÃ©bec.</p>

6. Are there any other concerns with this SAR that haven't been covered in previous questions?

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

Organization	Question 6 Comment
Arizona Public Service Company	No
Caithness Shepherds Flat, LLC	No
City of Tallahassee	No
Consumers Energy Company	No
DTE Electric	No
Florida Reliability Coordinating Council, Inc.	No
ISO/RTO Council Standards Review Committee	No
Southern Company: Southern Company Service, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; Southern Company Generation; Southern Company	No

Organization	Question 6 Comment
Generation and Energy Marketing	
ACES Standards Collaborators	No other concerns.
American Electric Power	No.
City of Tallahassee (TAL)	No.
Northeast Power Coordinating Council	No.
BP Wind Energy North America Inc.	No.
SPP Standards Review Group	Regarding the July 2016 deadline, the drafting team needs to be sure that this effort is complete in time for the industry to be ready by July 2016. We need to be sure that as the deadline approaches, compliance preparations aren't made and then un-made as a result of a modification to an existing standard which is impacted by this effort. In the 1st line of the 1st paragraph of the Industry Need section under SAR Information, we suggest replacing 'application' with 'applicability'. In the 5th line of the 1st paragraph of the Brief Description section under SAR Information, replace 'real time' with 'Real-time', the NERC Glossary term. In the 1st line of the FAC-008-3 paragraph under SAR Information, hyphenate step-up. In the next to last line of the General review of IROs, MODs, PRCs, TOPs paragraph, change 'unneeded' to 'unneeded'.
Public Service Enterprise Group	Section 303 of the NERC ROP addresses "Relationship between Reliability Standards and Competition." Item 1 states: "Competition - A Reliability Standard shall not give any market participant an unfair competitive advantage." By not treating all generators comparably, the SAR violates item 1. Based upon this and our prior comments, we recommend that the SAR be rejected by the Standards Committee.

Organization	Question 6 Comment
Exelon	The SAR includes the objective to complete the changes and obtain regulatory approval prior to the completion of the implementation of the BES definition. It is essential that this schedule is met so that dispersed generation owners and operators can plan and implement their compliance programs without having to temporarily implement requirements that will be superseded by this project.
	The SAR includes the objective to complete the changes and obtain regulatory approval prior to the completion of the implementation of the BES definition. It is essential that this schedule is met so that dispersed generation owners and operators can plan and implement their compliance programs without having to temporarily implement requirements that will be superseded by this project.
MRO NERC Standards Review Forum	The SAR includes the objective to complete the changes and obtain regulatory approval prior to the completion of the implementation of the BES definition. It is essential that this schedule is met so that dispersed generation owners and operators can plan and implement their compliance programs without having to temporarily implement requirements that will be superseded by this project.
Bonneville Power Administration	Yes. IRO, MODs TOPs should be reported in aggregate. Outage coordination requirements for non-dispatchable generation should be eased as the certainty of the generation is never precisely known. BPA feels focusing compliance activities at the point of aggregation to 75 MVA is acceptable; however, there are a couple areas where we need to be cautious. One area of concern is the issue of back feed. Regardless of the size of the dispersed generation resource, proper precautions must be in place to ensure that it does not unintentionally or unexpectedly feed back into the BES. This is a matter of safety for personnel who might be doing construction or maintenance activities on the BES. BPA's other area of concern is the ability of the dispersed resources to ride through faults and system disturbances. BPA's concern here is similar to the concern BPA had when large amounts of wind generation began to be integrated into the grid. Specifically, BPA is concerned that the settings on protection schemes might be set such that large

Organization	Question 6 Comment
	<p>numbers of them would drop off during an event. This would be the equivalent of a large, high-speed spike in load, which could make the event far worse.</p>
	<p>(1) Apply the Generator Site Boundary used in the BES Definition Reference (e.g. Figure I2-5) consistently for dispersed generation so that multiple GSU do not circumvent the 75MVA aggregate.(2) Develop a NERC Glossary definition for the term ‘dispersed generation’.</p>
<p>Duke Energy</p>	<p>(1) Duke Energy is concerned that Dispersed Generation will have to be compliant with the BES definition Phase 1 prior to the Implementation of this Project and the implementation of Phase 2 of the BES definition.(2) Financial implications to registered entities should be considered and included in the Industry Need section of the SAR such as additional human resources required to maintain compliance if the standards are not revised for the applicability of dispersed generation resources at the point of aggregation to 75 MVA or greater.</p>
<p>Manitoba Hydro</p>	<p>Although we do not have any concerns with this SAR, we have the following suggestions to improve clarity.(1) Industry Need - remove the words “Bulk Electric System” from the second paragraph to leave only the acronym, BES because this is the second instance of BES in the document. (2) SAR Information - capitalize ‘misoperation’ because it appears in the Glossary of Terms.</p>