NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments

Project 2010-13.2 Phase 2 Relay Loadability: Generation
PRC-023-3

The Project 2010-13.2 Phase 2 Relay Loadability: Generation standard drafting team thanks all commenters who submitted comments on PRC-023-3. This standard was posted for a 45-day public comment period from June 20, 2013 through August 8, 2013. Stakeholders were asked to provide feedback on the standard and associated documents through a special electronic comment form. There were 27 sets of comments, including comments from approximately 90 different people from approximately 76 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 standard's project page.

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

Summary of Changes

Applicability

Sections 4.2.1.1, 4.2.2.1, and 4.2.2.2 were revised to clarify the applicability by removing "except lines that are used exclusively to export energy directly from a Bulk Electric System (BES) generating unit or generating plant to the network" and replacing it with "except Elements that connect the GSU transformer(s) to the Transmission system that are used exclusively to export energy directly from a BES generating unit or generating plant. Elements may also supply generating plant loads."

Implementation Plan

The phrase "load-responsive phase protection systems on" was inserted on Requirement R1, R2, and R3 Applicability of the Implementation Plan to clarify that the "Applicability" column is referring to the ownership of the relays applied on transmission lines and not the ownership of the line. Requirement R6 was clarified that it includes Parts 6.1 and 6.2.

[1] The appeals process is in the Standard Processes Manual: http://www.nerc.com/files/Appendix_3A_StandardsProcessesManual_20120131.pdf

Index to Questions, Comments, and Responses

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	10
2.	Greg Campoli	New York Independent System Operator	NPCC	2
3.	Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
4.	Ben Wu	Orange and Rockland Utilities	NPCC	1
5.	Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
6.	Mike Garton	Dominion Resources Services, Inc.	NPCC	5
7.	Kathleen Goodman	ISO - New England	NPCC	2
8.	Michael Jones	National Grid	NPCC	1
9.	David Kiguel	Hydro One Networks Inc.	NPCC	1
10.	Christina Koncz	PSEG Power LLC	NPCC	5
11.	Helen Lainis	Independent Electricity System Operator	NPCC	2
12.	Michael Lombardi	Northeast Power Coordinating Council	NPCC	10
13.	Randy MacDonald	New Brunswick Power Transmission	NPCC	9
14.	Bruce Metruck	New York Power Authority	NPCC	6
15.	Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
16.	Lee Pedowicz	NPCC	NPCC	10
17.	Robert Pellegrini	The United Illuminating Company	NPCC	1

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

18.	Si-Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
19.	David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
20.	Brian Robinson	Utility Services	NPCC	8
21.	Brian Shanahan	National Grid	NPCC	1
22.	Wayne Sipperly	New York Power Authority	NPCC	5
23.	Donald Weaver	New Brunswick System Operator	NPCC	2

2.	Group	Jason Marshall	ACES Standards Collaborators						X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	David Sofra	North Carolina Electric Membership Corporation	SERC	1, 3, 4, 5
2.	John Shaver	Arizona Electric Power Cooperative	WECC	4, 5
3.	John Shaver	Southwest Transmission Cooperative	WECC	1
4.	Mark Ringhausen	Old Dominion Electric Cooperative	SERC	3, 4
5.	Michael Brytowski	Great River Energy	MRO	1, 3, 5, 6
6.	Shari Heino	Brazos Electric Power Cooperative	ERCOT	1, 5
7.	Mohan Sachdeva	Buckeye Power	RFC	3, 4

3.	Group	Robert Rhodes	SPP Standards Review Group		X								

	Additional Member	Additional Organization	Region	Segment Selection
1.	John Allen	City Utilities of Springfield	SPP	1, 4
2.	Andy Evans	Westar Energy	SPP	1, 3, 5, 6
3.	Louis Guidry	Cleco Power LLC	SPP	1, 3, 5
4.	Stephanie Johnson	Westar Energy	SPP	1, 3, 5, 6
5.	Bo Jones	Westar Energy	SPP	1, 3, 5, 6
6.	Tiffany Lake	Westar Energy	SPP	1, 3, 5, 6
7.	James Nail	City of Independence Power & Light Department	SPP	3
8.	Lynn Schroeder	Westar Energy	SPP	1, 3, 5, 6
9.	Kevin Stephan	Westar Energy	SPP	1, 3, 5, 6

4.	Group	David Thorne	Pepco Holdings Inc & Affiliates	X		X							

	Additional Member	Additional Organization	Region	Segment Selection
1.	Carl Kinsley	Delmarva Power & Light Co	RFC	1, 3
2.	Alvin Depew	Pepco Holdings Inc	RFC	1, 3

5.	Group	Wayne Johnson	Southern Company: Southern Company Services, Inc., Alabama Power Company, Georgia Power Company, Gulf Power	X		X		X	X				

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
			Company, Mississippi Power Company, Southern Company Generation, Southern Company Generation and Energy Marketing										
No additional members listed.													
6.	Group	David Greene	SERC Protection and Controls Subcommittee										

	Additional Member	Additional Organization	Region	Segment Selection
1.	Paul Nauert	Ameren		
2.	Steve Edwards	Dominion Virginia Power		
3.	Phil Winston	Southern Company Services		
4.	David Greene	SERC RRO		

7.	Group	Russel Mountjoy	MRO NERC Standards Review Forum (NSRF)	X	X	X	X	X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Alice Ireland	Xcel Energy	MRO	1, 3, 5, 6
2.	Dan Inman	Minnkota Power Cooperative	MRO	1, 3, 5, 6
3.	Dave Rudolph	Basin Electric Power Cooperative	MRO	1, 3, 5, 6
4.	Keyleigh Wilkerson	Lincoln Electric Systems	MRO	1, 3, 5, 6
5.	Jodi Jensen	Western Area Power Admininstration	MRO	1, 6
6.	Joseph DePoorter	Madison Gas and Electric	MRO	3, 4, 5, 6
7.	Ken Goldsmith	Alliant Energy	MRO	4
8.	Mahmood Safi	Omaha Public Power District	MRO	1, 3, 5, 6
9.	Marie Knox	Midcontinent Independent System Operator	MRO	2
10.	Mike Brytowski	Great River Energy	MRO	1, 3, 5, 6
11.	Scott Bos	Muscatine Power and Water	MRO	1, 3, 5, 6
12.	Scott Nickels	Rochester Public Utilities	MRO	4
13.	Terry Harbour	MidAmerican Energy Company	MRO	1, 3, 5, 6
14.	Tom Breene	Wisconsin Public Service	MRO	3, 4, 5, 6
15.	Tony Eddleman	Nebraska Public Power District	MRO	1, 3, 5

8.	Group	Dennis Chastain	Tennessee Valley Authority	X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	DeWayne Scott		SERC	1
2.	Ian Grant		SERC	3
3.	David Thompson		SERC	5

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
4.	Marjorie Parsons		SERC	6									
5.	Daniel McNeely		SERC	1									
9.	Group	Louis Slade	Dominion	X		X		X	X				
	Additional Member	**Additional Organization**	**Region**	**Segment Selection**									
1.	Jeff Bailey	Nuclear		5									
2.	Michael Crowley	Eletcric Transmission	SERC	1, 3									
3.	Chip Humphrey	Power Generation	SERC	5									
4.	Sean Iseminger	Power Generation	RFC	5									
5.	Matt Woodzell	Power Generation	NPCC	5									
6.	Mike Garton	NERC Compliance Policy	NPCC	5, 6									
7.	Connie Lowe	NERC Compliance Policy	SERC	1, 3, 5, 6									
8.	Randi Heise	NERC Compliance Policy	RFC	5, 6									
10.	Individual	Janet Smith, Regulatory Affairs Supervisor	Arizona Public Service Company	X		X		X	X				
11.	Individual	Thomas Foltz\	American Electric Power	X		X		X	X				
12.	Individual	Nazra Gladu	Manitoba Hydro	X		X		X	X				
13.	Individual	Don Weaver	New Brunswick System Operator		X								
14.	Individual	Michelle D'Antuono	Occidental Energy Ventures Corp					X					
15.	Individual	Michael Falvo	Independent Electricity System Operator		X								
16.	Individual	David Jendras	Ameren	X		X		X	X				
17.	Individual	Travis Metcalfe	Tacoma Power	X		X	X	X	X				
18.	Individual	Alice Ireland	Xcel Energy	X		X		X	X				
19.	Individual	Brett Holland	Kansas City Power & Light	X		X		X	X				
20.	Individual	Shaun Moran	NIPSCO	X		X		X	X				
21.	Individual	Jonathan Meyer	Idaho Power Co.	X									
22.	Individual	Bill Fowler	City of Tallahassee			X							
23.	Individual	Michael Lowman	Duke Energy	X		X		X	X				
24.	Individual	Bradley Collard	Oncor Electric Delivery Company LLC	X									
25.	Individual	Spencer Tacke	Modesto Irrigation District			X	X		X				
26.	Individual	Ed O'Brien	Modesto Irrigation District			X	X	X					
27.	Individual	Melissa Kurtz	US Army Corps of Engineers					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 SERC PCS comments suggested leaving PRC-023-2, Criterion 2.4 in the version three revision. The drafting team noted that Criterion 2.4 is no longer necessary due to the revised Applicability. These relays are now applicable to the NERC Board of Trustees adopted PRC-025-1 standard.

Organization	Agree	Supporting Comments of "Entity Name"
Ameren	Agree	We agree with and support SERC PCS comments for PRC-023-3.

1. **The drafting team has modified the Applicability in PRC-023-3 to establish a bright line between PRC-023-3 and PRC-025-1 by excluding lines that are used exclusively to export energy directly from a BES generating unit or generating plant to the network and GSU and in doing so included the DP and TO in PRC-025-1. Do you agree that this establishes a bright line for the owners of load-responsive protective relays applied these Facilities (i.e., except lines that are used exclusively to export energy directly from a BES generating unit or generating plant to the network and GSUs)? If not, provide specific detail that would improve the PRC-023-3 Applicability clarity or any other comment.**

Summary Consideration:

All of the drafting team's modifications to the proposed PRC-023-3 standard were non-substantive. Stakeholder majority comments were limited to the Applicability section changes regarding how the drafting team implemented the phrase "except lines that are used exclusively to export energy directly from a Bulk Electric System (BES) generating unit or generating plant to the network" rather than "generator interconnection facilities." Applicability comments were provided by approximately four entities and supported by as many as 31 individuals. The drafting team remains steadfast in that the phrase "generator interconnection facilities" does not provide the needed clarity for the facilities applicable to the standard; however, based on other similar comments, the drafting team provided a non-substantive change to the three occurrences of the phrase "except lines that are used exclusively to export energy directly from a Bulk Electric System (BES) generating unit or generating plant to the network" by replacing it with "except Elements that connect the GSU transformer(s) to the Transmission system that are used exclusively to export energy directly from a BES generating unit or generating plant. Elements may also supply generating plant loads." This clarification also clarifies a minority comment about how the original proposed language addressed conditions where those same interconnection lines also provided station service or even cases where the generating plant was a pumped storage facility.

One comment supported by approximately 24 individuals requested clarification on in the implementation plan to clarify the applicability is not the transmission line, but the ownership of the load-responsive protective relays. The drafting team made the clarifying revision to the suggested Requirement R1 and also in Requirements R2 and R3 of the Implementation Plan.

The remaining comments were all minority concerns that did not result in a revision to the standard. Approximately three comments supported by 18 individuals suggested changes to Requirement R2 of the proposed draft PRC-023-3 standard concerning out-of-step blocking. The drafting team appreciates comments that improve the standard; however, this offered suggestion was outside the scope of the drafting team's effort to establish a bright line between the existing PRC-023-2 and the new PRC-025-1. There were a few of comments regarding the PRC-023 standard's criterion. For example, there was one comment representing about 8 individuals suggesting to leave Requirement R1, Criterion 6 and Item 2.4 in Attachment A in the proposed PRC-023-3 standard. The drafting team disagreed that these were no longer relevant to the standard as the criterion is now applicable to the NERC Board of Trustees

adopted PRC-025-1 – Generator Relay Loadability standard. The same comment also suggested removing Requirement R1, Criterion 7; however, the drafting team disagreed because this criterion may be useful. One other comment represented by five individuals supported the removal of 2.4 in Attachment A.

An additional minority comment supported by three individuals included a concern about the regulatory approval timeline of both the proposed PRC-023-3 and the NERC Board of Trustees adopted PRC-025-1. The implementation plan of each standard, requires that they both be approved by the regulatory authority together to avoid a reliability gap and compliance overlap. Two individuals commented that the standard should only apply to generators and transformers that are material to the Bulk Electric System. The drafting team noted that Elements such as generators or transformers that are demonstrated to be material to the BES will likely be declared to be BES Elements under the provisions of the BES exception process. Other minority comments were editorial in nature by single individuals and include capitalizing "system operator" in the Purpose of the standard, using a word other than "export" (i.e., "export energy"), adding "Requirement" inside the parenthetical numbered requirement at the end of each Measure, and an observation about the posted redline to the previous posting of the standard being inaccurate. The drafting team did not make any revisions based on these comments including not correcting the previously posted document.

Organization	Yes or No	Question 1 Comment
ACES Standards Collaborators	No	(1) The proposed changes are closer to establishing a bright line but still do not go far enough. (2) For consistency with Project 2010-07 Generator Requirements at the Transmission Interface, we request using "generator interconnection Facility" rather than "lines and transformers that are used exclusively to export energy directly from a BES generating unit or generating plant to the network". While we understand the purpose of using the latter term is avoid the implication that "generator interconnection Facility" is owned by the Generator Owner, the latter term actually creates more confusion and will likely lead to inconsistent enforcement. Furthermore, based on the Guidelines and Technical Basis for PRC-025, the rationale for using the term is only applicable to PRC-025 and not PRC-023. PRC-023 is already applicable to the Distribution Provider so there is no need to expand applicability.

Organization	Yes or No	Question 1 Comment
		Response: The drafting team made changes to PRC-025-1 during this comment period to address these concerns. The drafting team made non-substantive changes to the PRC-023-3 Applicability 4.2.1.1, 4.2.2.1, and 4.2.2.2 to clarify the facility applicability. Change made. The concern raised about the Distribution Provider's applicability in PRC-025-1 was addressed in the PRC-025-1 response to comments. No change made. (3) Since the "generator interconnection Facility" term has already been established in other standards and was deemed to be understood well enough by industry that the Project 2010-07 Generator Requirements at the Transmission Interface drafting team decided a glossary term was not necessary contrary to the ad hoc report, the same terminology should be used in PRC-023 to avoid confusion and inconsistency. Confusion could arise with enforcement and compliance personnel over the use of the term "lines and transformers that are used exclusively to export energy directly from a BES generating unit or generating plant to the network" and how to apply the standard to the GO. This will result in the GO, NERC and Regional Entities expending resources on unnecessary compliance activities that do not support reliability. **Response:** The drafting team notes that previous stakeholder comments revealed that the phrase "generator interconnection facility" was unclear and led the team to revising the applicability not to use the phrase. No change made. (4) For PRC-023, we further request that the "generator interconnection Facility" term be further refined to "non-radial generator interconnection Facility" or "networked generator interconnection Facility". From the Guideline and Technical Basis document for PRC-025, we understand that PRC-023 is applicable to the GO because some "generation interconnection Facilities" are networked as shown in Figure 3 of the document. Figure 3 depicts a common situation in which a generator that was looped into an

Organization	Yes or No	Question 1 Comment
		existing line such that current can flow from the grid through the high side bus of the generator step up transformer back to the grid. This additional refinement is needed to clarify in what limited situations PRC-023 would be applicable to the Generator Owner. (5) We request that applicability section 4.1.2 be modified to clarify it is only applicable to Generator Owners that own networked or non-radial "lines and transformers that are used exclusively to export energy directly from a BES generating unit or generating plant to the network" or "generator interconnection Facilities". **Response (Items 4 & 5):** The drafting team made non-substantive changes to the PRC-023-3 Applicability 4.2.1.1, 4.2.2.1, and 4.2.2.2 to clarify the facility applicability. Change made. (6) We understand that the term "lines and transformers that are used exclusively to export energy directly from a BES generating unit or generating plant to the network" was used in PRC-023 because the Guidelines and Technical Basis document indicated there was a concern that a Distribution Provider may own a "generation interconnection Facility" and that the term implies ownership by the GO. We disagree with this implication and we have found numerous references including the November 16, 2009 Final Report from the Ad Hoc Group for Generator Requirements at the Transmission Interface that indicate the facility may or may not be owned by the GO. Furthermore, the original proposed definition of a "generation interconnection Facility" from the report did not indicate ownership. **Response:** The drafting team notes that previous stakeholder comments revealed that the phrase "generator interconnection facility" was unclear and led the team to revising the applicability not to use the phrase. No change made. (7) While we understand the intended use of the term "except lines and

Organization	Yes or No	Question 1 Comment
		transformers that are used exclusively to export energy directly from a BES generating unit or generating plant to the network" was used in PRC-025 because of the drafting team's concern of the implication of GO ownership would prevent applicability to the DP, we find it is unnecessary in PRC-023. PRC-023 is already otherwise applicable to PRC-023 because a DP might own Transmission Protection Systems as identified in the NERC compliance registry. If the DP did own networked "generation interconnection Facility" above the 100 kV threshold compliance registry criteria, they would be registered as a Transmission Owner as well. Furthermore, PRC-023 R6 would still allow the PC to identify networked facilities below 100 kV that the DP owns. **Response:** The Distribution Provider is included to address those cases where a Distribution Provider owns load-responsive protective relays on the Elements listed in the Applicability section of the standard. This also avoids an entity having to register as a Transmission Owner for this specific condition. No change made. (8) There are inconsistencies between the terms in PRC-023 and PRC-025 that are intended to apply to non-radial and radial generator interconnection Facilities. PRC-025 uses the term "Elements that connect a GSU transformer to the Transmission system that are used exclusively to export energy directly from a BES generating unit or generating plant" while PRC-023 uses slight variants of the term "except lines and transformers that are used exclusively to export energy directly from a BES generating unit or generating plant to the network". Some differences that should be eliminated include the appended "to the network" in the PRC-023 term, use of "Elements" in PRC-025, and use of "lines and transformers". **Response:** The drafting team made non-substantive changes to the PRC-023-3 Applicability 4.2.1.1, 4.2.2.1, and 4.2.2.2 to eliminate the noted inconsistencies. Change made.

Organization	Yes or No	Question 1 Comment
Response: The drafting team thanks you for your comments; please see the above responses.		
NIPSCO	No	Summary of added clarification: this entity suggests that clarification of requirements is needed for Requirement 2 (R2) with regards to "out-of-step blocking" since this "out of step blocking" function may or may not be implemented on every BES facilties' protection scheme and should be held under the judgment of the protection and control engineer. Some may read the existing standard requirement R2 wording as “an explicit requirement to indeed set "out of step blocking" elements on all protective relays equipped with the element as an option, set in the manner described in R2”. This is assumed not to be the intention by the wording of the standard. We suggest the following: ***R2.*** *Each Transmission Owner, Generator Owner, and Distribution Provider shall set its out-of-step blocking elements[, if implemented,]to allow tripping of phase protective relays for faults that occur during the loading conditions used to verify transmission line relay loadability per Requirement R1. [Violation Risk Factor: High] [Time Horizon: Long Term Planning]*
Response: The drafting team thanks you for your comments and notes this suggestion is out of scope of the project. No change made.		
Modesto Irrigation District	No	I am voting NO on this revision to this NERC Standard, because I would suggest the following changes be made: 1. Section 4.2.1.3 (under "Circuits Subject to Requirements R1 - R5") needs be revised to read "Transmission lines operated below 100 kV that have been shown to have a material impact to the reliability of the adjacent interconnected system, or as selected by the Planning Authority in accordance with Requirement R6".

Organization	Yes or No	Question 1 Comment
		2. Section 4.2.1.6 (under "Circuits Subject to Requirements R1 - R5") needs be revised to read "Transformers with low voltage terminals connected below 100 kV that have been shown to have a material impact to the reliability of the adjacent interconnected system, or as selected by the Planning Authority in accordance with Requirement R6". Thank you.
Response: The drafting team thanks you for your comments and notes that Elements such as generators or transformers that are demonstrated to be material to the BES will likely be declared to be BES Elements under the provisions of the BES exception process; therefore, will be made applicable to the standard. No change made.		
Modesto Irrigation District	No	1. Section 4.2.1.3 (under "Circuits Subject to Requirements R1 - R5") needs be revised to read "Transmission lines operated below 100 kV that have been shown to have a material impact to the reliability of the adjacent interconnected system, or as selected by the Planning Authority in accordance with Requirement R6". 2. Section 4.2.1.6 (under "Circuits Subject to Requirements R1 - R5") needs be revised to read "Transformers with low voltage terminals connected below 100 kV that have been shown to have a material impact to the reliability of the adjacent interconnected system, or as selected by the Planning Authority in accordance with Requirement R6".
Response: The drafting team thanks you for your comments and notes that Elements such as generators or transformers that are demonstrated to be material to the BES will likely be declared to be BES Elements under the provisions of the BES exception process; therefore, will be made applicable to the standard. No change made.		
Northeast Power Coordinating Council	Yes	Other comments: Most, if not all of the lines being excluded from the Standard could still be utilized to provide station service supply to the generating plant. Are any lines used “exclusively” to export energy from a BES GO? Would lines used to supply station service load at generating plants (for example during

Organization	Yes or No	Question 1 Comment
		generator shutdown) still be excluded from PRC-023-3? **Response:** The drafting team made non-substantive changes to the PRC-023-3 Applicability 4.2.1.1, 4.2.2.1, and 4.2.2.2 to clarify the facility applicability. Change made. From the Applicability for R1 on page 3 of the Implementation Plan for PRC-023-3 should be revised from "Each Transmission Owner, Generator Owner and Distribution Provider with transmission lines operating at..." to "Each Transmission Owner, Generator Owner and Distribution Provider with load-responsive protection systems on transmission lines operating at..." The transmission line owner and load-responsive relay owner could be represented by two or more different entities. The owner of the load-responsive protection system should be responsible for compliance as identified properly under Section 4, Applicability of PRC-023-3. The Implementation Plan should not contradict Applicability or the Requirements set forth in the Standard. **Response:** The drafting team made the suggested non-substantive edits to clarify the implementation plan that applicability is based on the ownership of the relays. Change made.
Response: The drafting team thanks you for your comments; please see the above responses.		
Pepco Holdings Inc & Affiliates	Yes	We agree with all the proposed changes to PRC-023-3. However, we have concerns with the proposed implementation plan for PRC-023-3 and the proposed retirement date of PRC-023-2. The entire PRC-023-2 standard should remain in force until the effective date of PRC-025-1, not just Requirement R1, Criterion 6. This is because PRC-023-2 also includes generator protection relays that are susceptible to load (PRC-023-2 Attachment A, Section 2.4). If PRC-023-2 is retired and PRC-023-3 becomes effective prior to the full implementation of PRC-025-1 there could be a gap

Organization	Yes or No	Question 1 Comment
		in compliance associated with generator protection relays previously subject to PRC-023-2. As such, we believe the implementation of PRC-025-1 and PRC-023-3 as well as the retirement of PRC-023-2 should all be coincident.
Response: The drafting team thanks you for your comment and notes that the Implementation Plan for both PRC-023-3 and PRC-025-1 dictate that both need to be approved simultaneously by regulators to avoid the described gap. No change made.		
Southern Company: Southern Company Services, Inc., Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company, Southern Company Generation, Southern Company Generation and Energy Marketing	Yes	1) We endorse the SERC Protection & Control Subcommittee (PCS) comment: Please include, rather than remove, 2.4 in Attachment A ("Protective relays applied at the terminals of generation Facilities...") because this reinforces the bright line between PRC-023-3 and PRC-025-1; **Response:** The drafting team contends that Criterion 2.4 is no longer necessary due to the revised Applicability. These relays are now applicable to the NERC Board of Trustees adopted PRC-025-1 standard. No change made. 2) We have an observation regarding terminology between terms used in PRC-023-3 and PRC-025-1: The Transmission standard discusses 'electrical network' and 'the network' in the Purpose and Applicability (See Part A. 4.2.1.1, 4.2.2.1, and 4.2.2.2) while the Generator standard discusses 'Transmission system' at the Applicability section 3.2.4. Should these terms all be the same? **Response:** The drafting team made non-substantive changes to the PRC-023-3 Applicability 4.2.1.1, 4.2.2.1, and 4.2.2.2 to eliminate the noted inconsistencies. Change made. 3) We feel that all the transmission line terminal setting criteria should have remained in PRC-023. **Response:** The drafting team notes that Criterion 6 was removed (i.e., "Not used") because it is no longer applicable to the standard based on the changes made to align PRC-023-3 with PRC-025-1. No change made.

Organization	Yes or No	Question 1 Comment
Response: The drafting team thanks you for your comments; please see the above responses.		
SERC Protection and Controls Subcommittee	Yes	Please include, rather than remove, 2.4 in Attachment A ("Protective relays applied at the terminals of generation Facilities...") because this reinforces the bright line between PRC-023-3 and PRC-025-1. 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 should not be construed as the position of SERC Reliability Corporation, its board, or its officers.
Response: The drafting team thanks you for your comment and contends that Criterion 2.4 is no longer necessary due to the revised Applicability. These relays are now applicable to the NERC Board of Trustees adopted PRC-025-1 standard. No change made.		
MRO NERC Standards Review Forum (NSRF)	Yes	The NSRF agrees that this revision of PRC-023-3 establishes a bright line for load-responsive relay owners between generating units and transmission networks. The following is an additional comment regarding PRC-023-3 content: The requirements in R2 with regard to out-of-step blocking are not supported in the technical reference document. Out-of-step relaying does not seem to fall under the purpose of the PRC-023-3 as it is suggested they do not "limit transmission loadability." For these reasons requirement R2 should be deleted.
Response: The drafting team thanks you for your comment and notes this suggestion is out of scope of the project. No change made.		
Manitoba Hydro	Yes	Although Manitoba Hydro is in general agreement with the standard, we have the following comments (1) Purpose - for clarity, consider replacing the words "system operators'"

Organization	Yes or No	Question 1 Comment
		with [a System Operator(s)"]. **Response:** The drafting team that originally developed the PRC-023 standard intended the term "system operators" to be used in the more general use rather than the more definite NERC Glossary term. No change made. (2) Measures (M1-M6) - for consistency with the Data Retention section, consider adding the word [Requirement] before the bracketed requirements - R1, R2, R3, R4, R5 and R6 found at the end of each of the measures. **Response:** The drafting team considered the suggestion and elected not to make the editorial suggestion in the Measures where each requirement is linked parenthetically to an actual Requirement. Such changes would not be consistent with the body of standards that use this convention. No change made. (3) PRC 023-3, Sections 4.2.1.1 and 4.2.2.1 - have been revised to exclude lines and transformers that are used exclusively to "export" energy directly from a Bulk Electric System (BES) generating unit to the network. Use of the term "export" implies that the energy is delivered from one government jurisdiction to a foreign jurisdiction. It is not clear why such a term would be used. Unless this was the actual intention, the term "export" should be replaced with [transmit] or [deliver]. **Response:** The drafting team made non-substantive changes to the PRC-023-3 Applicability 4.2.1.1, 4.2.2.1, and 4.2.2.2 to clarify the facility applicability. Change made. The drafting team notes that the understanding of the term "export energy" may be slightly different. The term "export energy" is synonymous with "deliver" or "transmit." No change made. (4) Implementation Plan - In the Implementation Plan chart for R6, the "Applicability" section does not describe the applicable entities for the requirement. Instead, it describes part of the requirement. The Applicable

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		entities should be identified. Also, as drafted only one part of the requirement is addressed by the Implementation Plan chart. If the intent is to create 2 different effective dates for different parts of R6, this should be specified in the first column. **Response:** The drafting team notes that the only update to the Implementation Plan was to include the known dates as a reference for industry. Additionally, the drafting team had no specific reason to address changes in the language of the plan because the performance of the requirements was not changing with regard to transmission relays. The drafting team recognizes after reviewing the comment above that the R6 "Applicability" text in the Implementation Plan reads more like the actual Requirement R6 language; whereas, the Applicability text for requirements R1-R5 are more generic and relates to the entities and circuits identified in the PRC-023-3 Applicability section. Since the Implementation Plan is materially the same as the plan approved with version two of the PRC-023-3 standard and that the drafting team has not received earlier concern about the language, the drafting team decided not to revise the text. The drafting team does offer that the style and manner the Implementation Plan is written, the time periods associated with R6 do include its sub-parts 6.1 and 6.2. No change made.
Response: The drafting team thanks you for your comments; please see the above responses.		
Occidental Energy Ventures Corp	Yes	Occidental Energy Ventures Corp. believes that the project team has taken a far more elegant approach in separating relays designed to protect transmission equipment from those protecting generation equipment - without regard to the relay owner. The previous method required criteria duplicated from PRC-025-1, which was difficult to follow. With multiple other generator protection system standards pending -

Organization	Yes or No	Question 1 Comment
		including Phase III development of Project 2010-13 - we would like to see a regulatory commitment to a comprehensive risk-based Compliance approach to the topic. We share NERC's concern that Misoperations continue to be a leading cause of BES events; due in major part to the complex interaction of Protection System schema. In this model, the settings criteria in all PRC standards must be continually evaluated against event data - which NERC is just beginning to accumulate. This means that those standards which do not show progress in reducing BES risk, must be aggressively withdrawn in favor of those which do. Only then can we be comfortable that the most effective critieria is in place.
Response: Thank you for your comment. Monitoring, analyzing, and tracking trends in Protection System Misoperations are critical to improving BES reliability. Misoperation data collection provides several benefits to BES reliability and supports NERC's mission of ensuring the reliability of the BPS. NERC is committed to working with stakeholders to provide high value risk analysis with the goal of identifying areas for improvement in Misoperation rates and supporting comprehensive solutions. NERC is obligated to conduct five-year reviews of standards that are more than five years old and have not yet been revised through other standards development projects. Within the next year, all standards that have not been significantly revised or retired will undergo a comprehensive review to determine whether the standard should be reaffirmed, revised, or withdrawn. NERC has responded to regulatory and industry guidance by incorporating into its five-year review process principles of results-based standards drafting and a review of each standard in relation to other standards to eliminate duplicative requirements. Additionally, five-year reviews will evaluate whether each standard is clear, concise, and technically sound given current technologies and system conditions, whether any regulatory directives require specific changes to the standard, and whether the requirements that do little to ensure the reliability of the BPS should be eliminated. Five-year reviews also will consider previously captured stakeholder-identified issues pertaining to the affected standards. No change made.		
Tacoma Power	Yes	On page 14 of the redlined Implementation Plan for PRC-023-3, 4.2.3 and 4.2.4 in Proposed Replacement column should be deleted.
Response: The drafting team thanks you for identifying this error. A manual redline, rather than an automatic one, was created for clarity. Automatic redlining does not always yield the best mark-up and therefore makes understanding the changes difficult; while manual redlining tends to introduce errors in attempting to make the changes more apparent. No change made will be made to the		

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previously posted redline. The clean version that was posted contemporaneously with the redline version was correct. No change made.		
Xcel Energy	Yes	Xcel Energy believes Requirement 1, Criteria 7 should be removed from the standard. It does not have an application with the addition 'except lines that are used exclusively to export energy directly from a Bulk Electric System (BES) generating unit or generating plant to the network' to Applicability 4.2.1.1.
Response: The drafting team thanks you for your comment and contends that Criterion 7 may still be useful. No change made.		
Kansas City Power & Light	Yes	In the Implementation Plan, page 14, 4.2.3 and 4.2.4 are shown in the proposed replacement column. 4.2.3 and 4.2.4 refer to Requirements R7 and R8 which have been removed. The text is not included in the already approved standard and is not red-lined in the proposed replacement column, so I imagine that this was pasted in accidentally.
Response: The drafting team thanks you for identifying this error. A manual redline, rather than an automatic one, was created for clarity. Automatic redlining does not always yield the best mark-up and therefore makes understanding the changes difficult; while manual redlining tends to introduce errors in attempting to make the changes more apparent. No change made will be made to the previously posted redline. The clean version that was posted contemporaneously with the redline document was correct. No change made.		
Duke Energy	Yes	Duke Energy agrees that the modifications implemented by the drafting team creates the necessary bright line between PRC-023-1 and PRC-025-1.
Response: The drafting team thanks you for your comment.		
Oncor Electric Delivery Company LLC	Yes	The word "exclusively" should be changed to "primarily" as these interconnect lines are also used to import power during non-generation periods.

Organization	Yes or No	Question 1 Comment
Response: The drafting team thanks you for your comment and notes it made non-substantive changes to the PRC-023-3 Applicability 4.2.1.1, 4.2.2.1, and 4.2.2.2 to clarify the facility applicability. Change made.		
US Army Corps of Engineers	Yes	The requirements in R2 with regard to out-of-step blocking are not supported in the technical reference document. Out-of-step relaying does not seem to fall under the purpose of the PRC-023-3 as it is suggested they do not "limit transmission loadability." For these reasons requirement R2 should be deleted.
Response: The drafting team thanks you for your comment and notes this suggestion is out of scope of the project. No change made.		
Tennessee Valley Authority	Yes	
Dominion	Yes	
Arizona Public Service Company	Yes	
American Electric Power	Yes	
New Brunswick System Operator	Yes	
Independent Electricity System Operator	Yes	
Idaho Power Co.	Yes	
City of Tallahassee	Yes	
SPP Standards Review Group	Yes	
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END OF REPORT