NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments

Project 2010-05.2 – Special Protection Systems (Phase 2 of Protection Systems)

The Special Protection Systems Drafting Team thanks all commenters who submitted feedback on the revised definition of Remedial Action Scheme. The revised definition was posted for a 45-day public comment period from August 29, 2014 through October 14, 2014. Stakeholders were asked to provide feedback on the revised definition through a special electronic comment form. There were 46 responses, including comments from approximately 126 different people from approximately 92 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 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]

Summary of Changes

Definition:

Lower-cased the word 'reclosing' in Exclusion 'd' because it is not a defined term in the Glossary of Terms Used in NERC Reliability Standards.

Implementation Plan:

Updated the list of Reliability Standards being revised to use the single defined term RAS with the new NERC numbering system.

Removed PRC-024-1 and PRC-005-1 from the list of revised Reliability Standards to avoid any complications related to the timing of their associated implementations.

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

Background and FAQ:

The Background and FAQ document was updated to reflect the changes and additions made to the proposed definition

Unresolved Minority Views:

A few commenters questioned the general formatting of the definition and the need for an exclusion list.

The drafting team explained the definition must be broad enough to include the variety of System conditions monitored and corrective actions taken by RAS. Because of the diversity of RAS in both action and objective, the practical approach to the definition is to begin with a wide scope and then list specific exclusions. Without the exclusions, equipment and schemes that should not be considered RAS could be subject to the requirements of the RAS-related NERC Reliability Standards. The exclusion list also assures that commonly applied protection and control systems are not unintentionally included as RAS. Note, if a scheme or protective system is not explicitly defined as an exclusion, it is not by default a RAS - the definition of RAS must be met in its entirety.

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	X	X		X	X		X	X	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.	Kelly Dash	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.	Helen Lainis	Independent Electricity System Operator	NPCC	2

12.	Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
13.	Bruce Metruck	New York Power Authority	NPCC	6
14.	Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
15.	Robert Pellegrini	The United Illuminating Company	NPCC	1
16.	Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
17.	David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
18.	Brian Robinson	Utility Services	NPCC	8
19.	Ayesha Sabouba	Hydro One Networks Inc.	NPCC	1
20.	Brian Shanahan	National Grid	NPCC	1
21.	Wayne Sipperly	New York Power Authority	NPCC	5
22.	Ben Wu	Orange and Rockland Utilities Inc.	NPCC	1
23.	Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3

	Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
2.	Group	Joe DePoorter	MRO NERC Standards Review Forum	X	X	X	X	X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Amy Casucelli	Xcel Energy	MRO	1, 3, 5, 6
2.	Chuck Wicklund	Otter Tail Power	MRO	1, 3, 5
3.	Dan Inman	Minnkota Power Coop	MRO	1, 3, 5, 6

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

4.	Dave Rudolph	Basin Electric Power Coop	MRO	1, 3, 5, 6
5.	Kayleigh Wilkerson	Lincoln Electric System	MRO	1, 3, 5, 6
6.	Jodi Jensen	WAPA	MRO	1, 6
7.	Joe DePoorter	Madison Gas & Electric	MRO	3, 4, 5, 6
8.	Ken Goldsmith	Alliant Energy	MRO	4
9.	Mahmood Safi	Omaha Public Power District	MRO	1, 3, 5, 6
10.	Marie Knox	MISO	MRO	2
11.	Mike Brytowski	Great River Energy	MRO	1, 3, 5, 6
12.	Randi Nyholm	Minnesota Power	MRO	1, 5
13.	Scott Nickels	Rochester Public Utilities	MRO	4
14.	Terry Harbour	MidAmerican Energy	MRO	1, 3, 5, 6
15.	Tom Breene	Wisconsin Public Service	MRO	3, 4, 5, 6
16.	Tony Eddleman	Nebraska Public Power District	MRO	1, 3, 5

				1	2	3	4	5	6	7	8	9	10
3.	Group	Kelly Dash	Con Edison, Inc.	X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Edward Bedder	Orange and Rockland Utilities	NPCC	NA

				1	2	3	4	5	6	7	8	9	10
4.	Group	Shawn Tom Abrams	Santee Cooper	X		X		X	X				

Additional Member	Additional Organization	Region	Segment Selection

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

1.	S. Tom Abrams	Santee Cooper	SERC	1, 3, 5, 6
2.	Glenn Stephens	Santee Cooper	SERC	1, 3, 5, 6
3.	Rene Free	Santee Cooper	SERC	1, 3, 5, 6

#	Group/Individual	Commenter	Organization	1	2	3	4	5	6	7	8	9	10
5.	Group	Robert Rhodes	SPP Standards Review Group	X	X	X	X	X					

	Additional Member	Additional Organization	Region	Segment Selection
1.	Kevin Foflygen	City Utilities of Springfield	SPP	1, 4
2.	Allan George	Sunflower Electric Power Corporation	SPP	1
3.	Shannon Mickens	Southwest Power Pool	SPP	2
4.	James Nail	City of Independence, MO	SPP	3, 5

#	Group/Individual	Commenter	Organization	1	2	3	4	5	6	7	8	9	10
6.	Group	Randi Heise	Dominion NERC Compliance Policy	X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Randi Heise	Dominion	NPCC	6
2.	Mike Garton	Dominion	NPCC	5
3.	Connie Lowe	Dominon	RFC	6
4.	Louis Slade	Dominion	SERC	5
5.	Larry Nash	Dominion	SERC	1, 3

	Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
6.	Chip Humphrey	Dominion	RFC	5									
7.	Group	Michael Jones	National Grid	X		X							
	Additional Member	Additional Organization	Region	Segment Selection									
1.	Brian Shanahan	National Grid	NPCC	3									
8.	Group	Carol Chinn	Florida Municipal Power Agency	X		X	X	X	X				
	Additional Member	Additional Organization	Region	Segment Selection									
1.	Tim Beyrle	City of New Smyrna Beach	FRCC	4									
2.	Jim Howard	Lakeland Electric	FRCC	3									
3.	Greg Woessner	Kissimmee Utility Authority	FRCC	3									
4.	Lynne Mila	City of Clewiston	FRCC	3									
5.	Randy Hahn	Ocala Utility Services	FRCC	3									
6.	Don Cuevas	Beaches Energy Services	FRCC	1									
7.	Stanley Rzad	Keys Energy Services	FRCC	4									
8.	Mark Schultz	City of Green Cove Springs	FRCC	3									
9.	Matt Culverhouse	City of Bartow	FRCC	3									
10.	Tom Reedy	Florida Municipal Power Pool	FRCC	6									
11.	Steven Lancaster	Beaches Energy Services	FRCC	3									
12.	Mike Blough	Kissimmee Utility Services	FRCC	5									
13.	Richard Bachmeier	Gainesville Regional Utilities	FRCC	1									
9.	Group	Dennis Chastain	Tennessee Valley Authority	X		X		X	X				
	Additional Member	Additional Organization	Region	Segment Selection									

NERC

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

1.	DeWayne Scott	SERC	1
2.	Ian Grant	SERC	3
3.	Brandy Spraker	SERC	5
4.	Marjorie Parsons	SERC	6

Group/Individual	Commenter	Organization	1	2	3	4	5	6	7	8	9	10
10. Group	Brian Van Gheem	ACES Standards Collaborators	X		X	X	X	X				

1.	Kevin Lyons	Central Iowa Power Cooperative	MRO	1
2.	John Shaver	Arizona Electric Power Cooperative	WECC	1, 4, 5
3.	John Shaver	Southwest Transmission Cooperative, Inc.	WECC	1, 4, 5
4.	Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
5.	Shari Heino	Brazos Electric Power Cooperative, Inc.	ERCOT	1, 5
6.	Mark Ringhausen	Old Dominion Electric Cooperative	SERC	3, 4
7.	Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	3, 5
8.	Ryan Strom	Buckeye Power, Inc.	RFC	3, 4, 5
9.	Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1

Group/Individual	Commenter	Organization	1	2	3	4	5	6	7	8	9	10
11. Group	Phil Hart	Associated Electric Cooperative, Inc.	X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.		Central Electric Power Cooperative	SERC	1, 3
2.		KAMO Electric Cooperative	SERC	1, 3

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
3.		M & A Electric Power Cooperative	SERC	1, 3									
4.		Northeast Missouri Electric Power Cooperative	SERC	1, 3									
5.		N. W. Electric Power Cooperative, Inc.	SERC	1, 3									
6.		Sho-Me Power Electric Power Cooperative	SERC	1, 3									
12.	Individual	Janet Smith	Arizona Public Service Co	X		X		X	X				
13.	Individual	Kaleb Brimhall	Colorado Springs Utilities	X		X		X	X				
14.	Individual	Jared Shakespeare	Peak Reliability	X									
15.	Individual	Wayne Johnson	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	X		X		X	X				
16.	Individual	Sandra Shaffer	PacifiCorp						X				
17.	Individual	Sandra Shaffer	PacifiCorp						X				
18.	Individual	Thomas Foltz	American Electric Power	X		X		X	X				
19.	Individual	Barbara Kedrowski	Wisconsin Electric Power Co			X	X	X					
20.	Individual	Amy Casuscelli	Xcel Energy	X		X		X	X				
21.	Individual	Hamid Zakery	Calpine Corp					X					
22.	Individual	David Thorne	Pepco Holdings Inc	X		X							
23.	Individual	Andrew Z. Pusztai	American Transmission Company, LLC	X									
24.	Individual	Mark Wilson	Independent Electricity System Operator		X								
25.	Individual	Jonathan Meyer	Idaho Power	X									
26.	Individual	Terry Harbour	MidAmerican Energy	X		X							
27.	Individual	Richard Pienkos	Consumers Energy Company			X	X	X					
28.	Individual	Michelle D'Antuono	Ingleside Cogeneration LP					X					
29.	Individual	Michael Moltaned	ITC	X									
30.	Individual	Philip R. Kleckley	South Carolina Electric & Gas Co.	X		X		X					

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
31.	Individual	Sonya Green-Sumpter	South Carolina Electric & Gas	X		X		X	X				
32.	Individual	Karen Webb	City of Tallahassee					X					
33.	Individual	Sergio Banuelos	Tri-State Generation and Transmission Association, Inc.	X		X		X					
34.	Individual	Gul Khan	Oncor Electric Delivery LLC	X									
35.	Individual	Chris Scanlon	Exelon Companies	X		X		X	X				
36.	Individual	Venona Greaff	Occidental Chemical Corporation							X			
37.	Individual	Bill Fowler	City of Tallahassee			X							
38.	Individual	John Merrell	Tacoma Power	X		X	X	X	X				
39.	Individual	Scott Langston	City of Tallahassee	X									
40.	Individual	Laurie Williams	PNM Resources Inc.	X		X							
41.	Individual	Chris de Graffenried	Con Edison, Inc.	X		X		X	X				
42.	Individual	John Pearson/Matt Goldberg	ISO New England		X								
43.	Individual	Catherine Wesley	PJM Interconnection										
44.	Individual	Jo-Anne Ross	Manitoba Hydro	X		X		X	X				
45.	Individual	William Temple	Northeast Utilities	X									
46.	Individual	Steve Johnson	WAPA	X		X							

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

Summary Consideration:

Organization	Agree	Supporting Comments of "Entity Name"
Occidental Chemical Corporation	Agree	Ingleside Cogeneration, LP
Northeast Utilities	Agree	Northeast Power Coordinating Council
Con Edison, Inc.	Agree	Northeast Power Coordinating Council (NPCC)

1. Do you agree with the revised definition of a Remedial Action Scheme (RAS)? If not, please provide the basis for your disagreement and your proposed revisions.

Summary Consideration:

A commenter asserted that 'reclosing' in Exclusion 'd' should not be capitalized because it is not a defined term in the Glossary of Terms Used in NERC Reliability Standards. The drafting team agreed and made the suggested change.

A few commenters questioned the general formatting of the definition and the need to contain an exclusion list. The drafting team explained the definition must be broad enough to include the variety of system conditions monitored and corrective actions taken by RAS. Because of the diversity of RAS in both action and objective, the practical approach to the definition is to begin with a wide scope and then list specific exclusions. Without the exclusions, equipment and schemes that should not be considered RAS could be subject to the requirements of the RAS-related NERC Reliability Standards. The exclusion list also assures that commonly applied protection and control systems are not unintentionally included as RAS. The drafting team noted that, if a scheme or protective system is not explicitly defined as an exclusion, it is not by default a RAS - the definition of RAS must be met in its entirety. For these reasons, the drafting team retained the exclusion list.

A commenter questioned the list of objectives in the definition stating that the first objective "Meet requirements identified in the NERC Reliability Standards" should be the only objective. The commenter asserted that the definition of RAS should be limited to applications relevant to the NERC Reliability Standards. The drafting team asserts that maintaining the reliability of the BES is the overarching principle and that there are instances when schemes are applied to satisfy objectives beyond Reliability Standards. These schemes need similar review and oversight regarding design and implementation adequacy, coordination, misoperation, unintended consequences, etc. as schemes applied for satisfying Reliability Standards and therefore also need to be classified as RAS.

Several commenters wanted more examples provided in Exclusion 'e', which already specified "transformer top-oil temperature". Commenters suggested other common schemes such as reverse power, transformer winding temperature, and loss of cooling. The drafting team agreed that the examples provided would not individually be considered RAS and modified the FAQ document to include several more. The drafting team further explained that they did not intend to develop an all-inclusive list of examples in each of the exclusions.

A commenter questioned the inclusion of the BES modifier in the list of objectives. The commenter wanted to include non-BES Facilities as identified by the Reliability Coordinator. The drafting team explained that the definition of RAS does not necessarily exclude sub-100 kV facilities. Facilities that impact the BES can be subject to NERC jurisdiction. If an entity such as a Reliability Coordinator determines that sub-100kV facilities should be included in the BES, they can submit a request to the BES Exception Process for inclusion. The drafting team asserts that regardless of the objective, schemes applied on non-BES systems that do impact the BES reliability would be RAS; however, schemes applied on non-BES systems that do not have a BES reliability impact would not be RAS.

A commenter questioned the inclusion of the BES modifier in Exclusion 'a.' The drafting team agreed that Protection Systems installed for the purpose of detecting Faults on non-BES Elements do not meet the definition of RAS, and thus are not subject to the RAS-related NERC Reliability Standards. The drafting team did not remove the BES modifier.

Numerous commenters described various scheme scenarios asking the drafting team's opinion on whether or not the scenarios would be deemed RAS based on the definition. The drafting team attempted to apply the definition to the limited descriptions provided.

Several commenters questioned why the RAS definition does not provide delineation between schemes that have different levels of impact on the BES. The drafting team explained that the classification of a RAS is not necessary for defining whether or not a scheme qualifies as a RAS. The classifications are more appropriately addressed concurrently with revisions to the RAS-related Reliability Standards. The drafting team will address this issue during the standards development phase of the project in 2015.

Several commenters raised concerns with the modifications the drafting team made to the Implementation Plans for PRC-024-1 and PRC-025-1. The drafting team explained that they did not intend to truncate the implementation of PRC-024-1 and PRC-025-1, and to avoid any complications related to the timing of the implementations, the team removed those standards from this project. The transition from the use of the definition of SPS to RAS for PRC-024-1 and PRC-025-1 will occur at a later date.

#	Organization	Yes/ No	Question 1 Comment
1	PacifiCorp	No	1. PacifiCorp strongly suggests further revision of the proposed RAS definition to provide an exclusion for schemes that trip adjacent circuits within a single substation, commonly referred to as cross-tripping schemes. Cross-trip schemes are often hard-wired or implemented with simple mirrored-bit type communications between relays in a single substation. These schemes are employed in instances when

#	Organization	Yes/ No	Question 1 Comment
			tripping of an element or elements in addition to or instead of the directly-monitored system element within a substation will provide superior electrical performance. Cross-trip schemes utilize simple Boolean logic, and system impacts of the schemes are typically local in nature. It is therefore PacifiCorp's contention that inclusion of these schemes in the RAS catalogs will do little to improve system performance or reliability, and further, their inclusion may hinder the transmission planning process by encumbering planners with information that is not useful. PacifiCorp does recognize the importance of capturing the actions of these cross-trip schemes in transmission system planning models; however this is best accomplished in contingency definitions. 2. The RAS definition does not provide any delineation between schemes that may have a significant impact on the bulk electric system and schemes that have limited impacts to the local system. PacifiCorp suggests that the drafting team reconsider inclusion of the Local Area, Wide Area, and Safety Net scheme designations in the RAS definition. These designations have been successfully defined and implemented within the WECC RRO territory with good results. As such, PacifiCorp suggests adoption of the WECC criteria for scheme delineation utilizing TPL criteria violations, load and generation impacts to provide clear and consistent delineation between the various types of schemes.
	Response: Thank you for your comment. 1. The drafting team contends that performing switching in the same substation (including transfer- or cross-trip schemes) that trip Elements other than the impacted Element is too broad of an exclusion. 2. The classification of a RAS is not necessary for defining whether or not a scheme qualifies as a RAS. Informal feedback from many stakeholders indicated uncertainty about the classification types. Therefore, the drafting team decided not to include RAS classification types within the definition. The classifications are more appropriately addressed concurrently with revisions to the RAS-related Reliability Standards. This issue will be addressed by the RAS classification during the standards development phase of the project in 2015.		
2	ACES Standards Collaborators	No	We agree with the need to modify the existing definition of SPS and RAS and that use of a single term will provide a more consistent use in applicable NERC standards and among the various NERC regions. We also appreciate the efforts of the SDT and incorporating many of our previous comments and recommendations into this latest proposed definition. However, we still feel the proposed definition still needs further clarification with its objectives and list of exclusions. 1. The definition identifies that one objective of a RAS is to "Meet requirements identified in the NERC Reliability Standards". As we identified in previously submitted comments, the reference of this term is

#	Organization	Yes/ No	Question 1 Comment
			ambiguous, and the SDT should remove it from the definition. According to the consideration of comments posted from the last comment period, the SDT believes this term needs to highlight the importance of risk on reliability when a RAS fails to operate or operate not as designed. We believe such an importance is already captured in the other objectives such as "Limit the impact of Cascading or extreme events" and "Maintain Bulk Electric System (BES) stability". Moreover, operation failure of the RAS measures the effectiveness of the actions taken by the RAS, not why an entity would install and maintain a RAS on their system. Furthermore, NERC declares on its website that its standards "define the reliability requirements for planning and operating the North American bulk power system and are developed using a results-based approach that focuses on performance, risk management, and entity capabilities." NERC and its regions assign these requirements to registered entities, not to individual BES elements or related system components. 2. The SDT added the NERC-defined term, "System Operator", to exclusion "k" in the list of items that do not individually constitute a RAS. We believe the possibility exists when non-NERC certified operators, such as a local TO operations center in PJM that performs switching, could manually initiate a sequence that further leads to activation of automated operations. This possibility exists due to the staffing requirements listed in the requirements of NERC Standard PER-003-1. We suggest the SDT add "...or personnel under their direct supervision" to this exclusion item to address this possibility. 3. The addition of "extreme events" to the last objective bullet is ambiguous and confusing. The objectives already cover Cascading and stability in other bullets. What other "extreme events" is the definition intended to cover? System islanding or separation? If so, then just state specifically these extreme events and remove the vague term "extreme events". We would like to thank the SDT on its continual efforts to include comments from industry during the development of this definition and this opportunity to comment.
	Response: Thank you for your comments. 1. The drafting team does not agree with the commenter that the objective is ambiguous. Many RAS are installed for the purpose of satisfying the requirements of NERC Reliability Standards; consequently the drafting team asserts that the stated objective is valid and reasonable to include in the objective list. The definition by itself imposes no requirements on RAS owners. 2. The FERC-approved definition of System Operator is: An individual at a Control Center of a Balancing Authority, Transmission Operator, or Reliability Coordinator, who operates or directs the operation of the Bulk Electric System (BES) in Real-time. The drafting team contends this definition covers your concern.		

#	Organization	Yes/ No	Question 1 Comment
	3. The drafting team notes that the term "extreme events" is commonly used in the TPL family of standards. The drafting team purposefully used the term "extreme events" because it is broader than "System islanding or separation," and there are RAS that mitigate such TPL extreme events that should be recognized by the definition.		
3	Colorado Springs Utilities	No	1. The last bullet of the definition, before all the exclusions, says "Limit the impact of Cascading or extreme events. We recommend that rather than introducing another variable that is not defined (extreme events) that the language already commonly used be included so it would read as follows: a. Limit the impact of instability, uncontrolled separation, or Cascading. 2. On exclusion "n." local generator output controls should be included as well. 3. General Notes: Colorado Springs Utilities does not agree with the exclusion list in the proposed definition. We do not think that it is reasonable or prudent to create a comprehensive list of exclusions. There will always be just one more exception that will force us to continue to modify the list of exclusions. Also, if it is not explicitly defined as an exception then by default it is automatically included whether it could affect reliability or not. The definition should clearly define what a RAS so as to include those schemes identified as essential to reliability. The only implicit exclusion we would recommend would be to exclude protection schemes that meet the definition of a RAS and are explicitly covered under other NERC reliability standards. Utilities would then use the definition to make sure that essential protection systems that meet the definition are included and document any further assumptions or judgment used in delineating between RAS and non-RAS schemes. Trying to micro-manage every possible exclusion or inclusion we think is not realistic and should not be necessary.
	Response: Thank you for your comments. 1. The drafting team notes that the term "extreme events" is commonly used in the TPL family of standards. The drafting team purposefully used the term "extreme events" because it is broader than "instability" or "uncontrolled separation," and there are RAS that mitigate "extreme events" that should be recognized by the definition. 2. The drafting team is not certain what you mean by "local generator output controls." If you are referring to a generator run-back scheme that operates due to a problem within the generation facility, then it is most likely not a RAS; however, if the generator run-back scheme responds to conditions on the BES outside of the generation facility, then it would be a RAS. 3. The definition must be broad enough to include the variety of System conditions monitored and corrective actions taken by RAS. Because of the diversity of RAS in both action and objective, the practical approach to the definition is to begin with a wide scope and then list specific exclusions. Without the exclusions, equipment and schemes that should not be considered RAS could be subject to the requirements of the RAS-related NERC Reliability Standards. The exclusion list also assures that		

#	Organization	Yes/ No	Question 1 Comment
	commonly applied protection and control systems are not unintentionally included as RAS. Note, if a scheme or protective system is not explicitly defined as an exclusion, it is not by default a RAS - the definition of RAS must be met in its entirety.		
4	Tri-State Generation and Transmission Association, Inc.	No	1. The first bullet after the opening definition seems very vague; especially since the next three bullets are examples of those requirements referenced in the first bullet. 2. The fifth bullet does not seem to apply unless an entity has identified the “Cascading or extreme events” resulting from some “predetermined System conditions.” Tri-State believes that it may be better to revert to the previous language that included “abnormal or,” i.e., “A scheme designed to detect abnormal or predetermined System conditions...” 3. Reword exclusion (e.) such that local monitoring can be used to disconnect other Elements than the one Element being monitored as long as communications to a different location is not required. For example, “Schemes applied locally for non-Fault conditions, such as, but not limited to, generator loss-of-field, transformer top-oil temperature, overvoltage, or overload to remove a local Element from service to protect it against damage.” 4. While Tri-State agrees with Exclusion ‘e’ in principle (with our suggested wording changes), it seems that the inclusion of “overvoltage, or overload” is in conflict with the third and fourth bullets in the main definition. Perhaps “the use of communication” needs to be included in parts of the definition. 5. Tri-State thinks Exclusion ‘f’ should start with the word “Automatic” so as not to be confused with remote manual control. 6. Exclusion ‘g’ seems to be in conflict with the last phrase of Exclusion ‘f.’ 7. Exclusion ‘h’ seems to be in conflict with the last phrase of Exclusion ‘f.’
	Response: Thank you for your comments. 1. The drafting team does not agree with the commenter that the objective is vague. Many RAS are installed for the purpose of satisfying the requirements of NERC Reliability Standards; consequently the drafting team asserts that the stated objective is valid and reasonable to include in the objective list. The definition by itself imposes no requirements on RAS owners. 2. The drafting team disagrees with the suggested change and declines to modify the definition. 3. The drafting team contends that performing switching in the same substation (including transfer- or cross-trip schemes) that trip Elements other than the protected Element is a System reconfiguration and is therefore a RAS. Reconfiguring the System can be a critical factor in reliability and merits the review and oversight associated with RAS. 4. The objective of many RAS are to address overloads or over-voltages. Exclusion ‘e” specifically identifies schemes that are installed to protect an Element by removing that Element from service. Communication is not a required element of a RAS.		

#	Organization	Yes/ No	Question 1 Comment
	5. A manual operation whether local or remote is never a RAS. The drafting team declines to make the suggested change. 6. Exclusions ‘f’ and ‘g’ are complementary in that ‘f’ provides a broad exception for local controls at the same station while ‘g’ provides a specific exclusion for FACTS control of shunt devices at one or more other stations. 7. Exclusions ‘f’ and ‘h’ are complementary in that ‘f’ provides a broad exception for local controls at the same station while ‘h’ provides a specific exclusion for manual back-up control of shunt devices at one or more stations.		
5	Santee Cooper	No	Santee disagrees with using RAS as a replacement for SPS. An SPS is used as an automatic system designed to detect abnormal or pre-determined system conditions and take pre-planned corrective action. This term applies to and is referenced in numerous guides, procedures and protocols. The term SPS should not be based upon normal operational schemes like a RAS. These are “special” systems designed to maintain reliability until solutions can be added to remove or “exit” their changes. We also anticipate other Reliability Coordinators having to go through a similar effort in regards to the SPS terminology change.
	Response: Thank you for your comments. The terms RAS and SPS are currently synonymous and interchangeable terms in the Glossary of Terms Used in NERC Reliability Standards. Please read the FAQ for more explanation regarding the use of the term RAS.		
6	Calpine Corp	No	Calpine appreciated the efforts by the Special Protection System SDT team. We support the idea of having a single clear definition. However, it is not clear why existing widely used SPS definition is being revised to be replaced with a Remedial Action Scheme (RAS) that is not commonly known. We believe this change will create even more confusion as there is no clarification for what is an "scheme". Is it a protection system, turbine control, static VAR Compensator (SVC) operation, large shunt capacitor controls connected at the BES level to maintain acceptable BES voltage. We suggest adding the word protective to the RAS definition as following: " A protective scheme designed to detect predetermined ...." This may clarify potential confusions may be caused by listing all protection system schemes in the "do not individually constitute as RAS" section.
	Response: Thank you for your comments. The terms RAS and SPS are currently synonymous and interchangeable terms in the Glossary of Terms Used in NERC Reliability Standards. The drafting team declines to make the suggested changes. Please refer to the FAQ for more explanation regarding the use of the term RAS.		
7	ISO New England	No	1. Exclusion “c” should be revised to include the word “stable” before the words “power swing blocking” so that it reads “c. Out-of-step tripping and stable power swing blocking.” This is because the exclusion should only apply to stable power swing blocking and not all power swing blockings. 2. Exclusion “e” Schemes applied on an Element for non-Fault conditions, such as, but not limited to, generator loss-of-field, transformer top-oil temperature, overvoltage, or overload to protect the Element

#	Organization	Yes/ No	Question 1 Comment
			against damage by removing it from service, unless the operation of the scheme is relied on to allow reliable operation at more stressed transfers on the system. Example: Loss of a 345 kV line on an interface overloads a parallel 115 kV line at a transfer of 1,000 MW. If the 115 kV line overload is detected by a scheme and removed from service, the interface can then reliably transfer 1,500 MW. This should be considered to be a RAS. 3. Exclusion "j" currently reads "Schemes that provide anti-islanding protection (e.g., protect load from effects of being isolated with generation that may not be capable of maintaining acceptable frequency and voltage)." This language is confusing because the first phrase describes schemes designed to prevent an island from forming but the parenthetical describes actions taken after an island is formed. To avoid this confusion, exclusion "j" should be revised to read: "j. Schemes that protect load from effects of being isolated with generation that may not be capable of maintaining acceptable frequency and voltage." 4. For exclusion "m," in response to a comment we had made during the previous commenting period, the Standard Drafting Team explained that "Exclusion (m) is consistent with present industry practices and the drafting team declined to make the suggested change. The proposed definition excludes schemes that directly detect sub-synchronous quantities; however, SSR mitigation schemes installed to detect distinct System configurations and loading conditions (that studies have shown may make a generator vulnerable to SSR), and take action to trip the generator or bypass the series capacitor, are classified as RAS." While we agree with the Standard Drafting Team's explanation, in order to clearly reflect that explanation in the RAS definition, exclusion "m" should read: "m. Sub-synchronous resonance (SRR) protection schemes that directly detect and only take local action due to sub-synchronous quantities (e.g., currents or torsional oscillations)." 5. The definition should decouple all possible HVDC Converter controls from the RAS definition. Add an additional Exclusion to RAS definition for HVDC. Based on NERC Terms of Glossary - Facility, here is the suggested exclusion language: The controllers at each terminal of an High Voltage direct current (HVdc) Facility, that may or may not rely on communications with the other terminals of the same HVdc Facility, that perform the intended control functions for that HVdc Facility.
	Response: Thank you for your comments. 1. The drafting team intends for this exclusion to apply to both stable and unstable power swing blocking. 2. If the scheme exists only to protect the line from damage caused by overload, it would be excluded by 'e' and not be a RAS. But if operation of the scheme is relied upon to increase the transfer limit or possibly prevent a violation of a TPL standard		

#	Organization	Yes/ No	Question 1 Comment
			requirement, the functional application is consistent with that of a RAS and beyond the intent of exclusion 'e', and the scheme would be considered a RAS. Additionally, if the scheme monitors the status of the 345kV line to arm or initiate the 115kV line tripping, it would be a RAS irrespective of the specific objective. The drafting team declines to make the suggested modification. 3. The parenthetical represents an example of a why anti-islanding protection is applied. Anti-islanding protection is not intended to prevent an island from forming but to detect and de-energize an island. 4. The proposed RAS definition is intended to exclude schemes that directly detect sub-synchronous quantities and take either local or non-local action(s). Therefore, the drafting team declines to make the changes proposed by the commenter. 5. The drafting team asserts that HVdc converter controls do not meet the definition of RAS. Such controls maintain correct operation and provide protection for the HVdc Facility itself, and are not implemented to take corrective actions based on predetermined system conditions to meet objectives such as those described in the RAS definition. An HVdc control scheme that takes corrective actions, such as backing down power transfer on the HVdc Facility following a contingency to avoid overload of another BES Element, may be part of a RAS. The suggested exclusion is unnecessary; therefore, the drafting team declines to make the proposed changes.
8	MidAmerican Energy	No	1. Exclusion item (c) - Retain the parenthetical text from the existing SPS Definition in the new RAS Definition, namely "c. Out-of-step tripping and power swing blocking (not designed as an integral part of an RAS)". There is an existing power swing blocking scheme where this parenthetical language is key for clarifying the SPS exclusion. 2. Exclusion item (e) - Add reverse power relays to include this clarification, with wording like, "Schemes applied on an Element for non-Fault conditions, such as, but not limited to, generator loss-of-field, transformer top-oil temperature, overvoltage, overload, or reverse power to protect the Element against damage by removing it from service." 3. Add Exclusion item (o) - Add an exclusion item that identifies some minimum impact thresholds for applicability to NERC Reliability Standards (e.g. Section 215, or the EOP-004-2 disturbance reporting standard). If an RAS would not cause loss of load and or generation of more than 100 MW then the event would be local and would not meet the need for "special" consideration in the NERC standards. Criteria consistent with NERC standard EOP-004-2 such as the following could be considered: 1. No automatic firm load shedding 100 MW (excluding automatic undervoltage or underfrequency load shedding schemes needed to meet other NERC standards). 2. No Loss of firm load for 15 Minutes or greater 100 MW.3. No total generation loss, within one minute, of 100 MW.

#	Organization	Yes/ No	Question 1 Comment
			4. Implementation Plan - Identification of existing or new RAS /SPS schemes might require BES system upgrades that could take years to design, approve, and build (e.g. 7 year provision in the TPL-001-4 standard). Therefore, consider including a provision in the Implementation Plan of an effective date of seven years for existing schemes that were not previously identified as SPS / RAS schemes.
	Response: Thank you for your comments. 1. The drafting team contends the existing sentence "The following do not individually constitute a RAS" accomplishes what you are requesting and declines to make the suggested change. 2. While we agree that the example you provide would not individually be considered RAS, the drafting team did not intend to develop an all-inclusive list of examples in each of the exclusions. The drafting team agrees that a reverse power relay by itself would not constitute a RAS. 3. Your comment appears to address classification types. The classification of a RAS is not necessary for defining whether or not a scheme qualifies as a RAS; therefore, the drafting team decided not to include RAS classification types within the definition. The classifications are more appropriately addressed concurrently with revisions to the RAS-related Reliability Standards. This issue will be addressed during the standards development phase of the project in 2015. 4. TPL-001-4 anticipates construction of major transmission and/or generation facilities to achieve compliance. That may require significant permitting effort as well as budgeting, design, scheduling and construction, etc. RAS are often used exactly because they can be implemented more quickly and cheaply and with less overall effort than the major system additions anticipated by TPL-001-4. The drafting team does not agree that an existing scheme newly defined as a RAS would require major system upgrades or 7 years to complete. The drafting team declines to make the suggested change.		
9	City of Tallahassee	No	In order to eliminate uncertainty, TAL believes criteria should be established that defines acceptable BES power flows.
	Response: Thank you for your comment. The RAS Definition is not the appropriate place to address this issue. Acceptable BES power flows are addressed in standards; *e.g.*, FAC standards, or may be based on defined operating limits; *e.g.,* System Operating Limits.		
10	City of Tallahassee	No	In order to eliminate uncertainty, TAL believes criteria should be established that defines acceptable BES power flows.
	Response: Thank you for your comment. The RAS Definition is not the appropriate place to address this issue. Acceptable BES power flows are addressed in standards; *e.g.*, FAC standards, or may be based on defined operating limits; *e.g.,* System Operating Limits.		
11	Con Edison, Inc.	No	In PRC-024-1(X), "A. Introduction 5. Effective Date" was removed, and replaced by the Effective Date paragraph. This change is not only not indicated in the redline, but more importantly it removed the "phased-in" implementation of PRC-024-1 which was necessitated by the requirements of the standard. Under A.5

#	Organization	Yes/ No	Question 1 Comment
			Effective Date: of PRC-025-1(X) the words “See Implementation Plan” were deleted. PRC-025-1(X) has its own Implementation Plan which is part of the standard’s “package.” However, to ensure clarity and avoid misunderstanding, suggest leaving “See Implementation Plan” in A.5. The Implementation Plan must be revised to be consistent with the intended revisions. It should be made clear that all aspects of the Implementation Plans for PRC-024-1 and PRC-025-1 will remain applicable to those standards.
	Response: Thank you for your comment. The drafting team did not intend to truncate the implementation of PRC-024-1 and PRC-025-1. To avoid any complications related to the timing of the implementation, PRC-024-1 and PRC-025-1 have been removed from the project, and transition from the use of the definition of SPS to RAS will occur at a later date.		
12	Northeast Power Coordinating Council	No	1. In PRC-024-1(X), A. Introduction 5. Effective Date was removed, and replaced by the Effective Date paragraph. This change is not only not indicated in the redline, but more importantly it removed the “phased-in” implementation of PRC-024-1 which was necessitated by the requirements of the standard. Is the intent to remove the “phase-in” percentages by the single effective date indicated by the Effective Date paragraph in PRC-024-1(X)? Under A.5 Effective Date: of PRC-025-1(X) the words “See Implementation Plan” were deleted. PRC-025-1(X) has its own Implementation Plan which is part of the standard’s “package.” However, to ensure clarity and avoid misunderstanding, suggest leaving “See Implementation Plan” in A.5. The Implementation Plan must be revised to be consistent with the intended revisions. It should be made clear that all aspects of the Implementation Plans for PRC-024-1 and PRC-025-1 will remain applicable to those standards. 2. In part (b) on page 1, what is meant by “distributed relays”? Are “distributed relays” intended to be distribution system relays? The wording needs clarification. 3. Please add the following to “The following do not individually constitute a RAS:” list: The controllers at each terminal of a High Voltage direct current (HVdc) Facility that may or may not rely on communications with the other terminals of the same HVdc Facility, that perform the intended control functions for that HVdc Facility.
	Response: Thank you for your comments. 1. The drafting team did not intend to truncate the implementation of PRC-024-1 and PRC-025-1. To avoid any complications related to the timing of the implementation, PRC-024-1 and PRC-025-1 have been removed from the project, and transition from the use of the definition of SPS to RAS will occur at a later date. 2. Distributed relays are individual relays which make independent Load shed decisions based on applied settings and localized voltage and/or current inputs. Distributed relays can be employed on transmission or distribution systems, or both.		

#	Organization	Yes/ No	Question 1 Comment
	3. The drafting team asserts that HVdc converter controls do not meet the definition of RAS. Such controls maintain correct operation and provide protection for the HVdc Facility itself, and are not implemented to take corrective actions based on predetermined system conditions to meet objectives such as those described in the RAS definition. An HVdc control scheme that takes corrective actions, such as backing down power transfer on the HVdc Facility following a contingency to avoid overload of another BES Element, may be part of a RAS. The suggested exclusion is unnecessary; therefore, the drafting team declines to make the proposed changes.		
13	National Grid	No	Please add the following item, to the lists of items, that do not individually constitute a RAS: "The controllers at each terminal of an High Voltage direct current (HVdc) Facility, that may or may not rely on communications with the other terminals of the same HVdc Facility, that perform the intended control functions for that HVdc Facility." Rationale: HVdc controllers performing the intended control functions for that HVdc Facility, should have equal treatment as FACTS controllers in the exclusion list. HVdc control functions such as: Pole Loss Compensation, Fast Metallic Return, and Permanent Mode Shift Compensation should be excludable controllers.
	Response: Thank you for your comment. The drafting team asserts that HVdc converter controls do not meet the definition of RAS. Such controls maintain correct operation and provide protection for the HVdc Facility itself, and are not implemented to take corrective actions based on predetermined system conditions to meet objectives such as those described in the RAS definition. An HVdc control scheme that takes corrective actions, such as backing down power transfer on the HVdc Facility following a contingency to avoid overload of another BES Element, may be part of a RAS. The suggested exclusion is unnecessary; therefore, the drafting team declines to make the proposed changes.		
14	MRO NERC Standards Review Forum	No	Please consider the following: 1. Exclusion item (c) - Retain the parenthetical text from the existing SPS Definition in the new RAS Definition, namely “c. Out-of-step tripping and power swing blocking (not designed as an integral part of an RAS)”. There is an existing power swing blocking scheme where this parenthetical language is key for clarifying the SPS exclusion. 2. Exclusion item (e) - Add reverse power relays to include this clarification, with wording like, “Schemes applied on an Element for non-Fault conditions, such as, but not limited to, generator loss-of-field, transformer top-oil temperature, overvoltage, overload, or reverse power to protect the Element against damage by removing it from service.” 3. Add Exclusion item (o) - Add an exclusion item that identifies some minimum impact thresholds for applicability to NERC Reliability Standards (e.g. Section 215, EOP-004-2 disturbance reporting). For

#	Organization	Yes/ No	Question 1 Comment
			example, if an RAS would not cause any loss of firm load, any loss of BES generation, any damage to BES Elements, any loss of nuclear plant off-site power, any widespread instability, uncontrollable separation or cascading, etc., then it is not be subject to any RAS requirements in NERC Reliability Standards. 4. Implementation Plan - In almost all circumstances the twelve month timeframe for the RAS definition or revised Reliability Standard should be sufficient for the introduction of new RAS or identification of existing scheme as RAS. However, it is also possible the identification of an existing scheme as RAS might require BES system upgrades that could take years to design, approve, and build (e.g. 7 year provision in the TPL-001-4 standard). Therefore, consider including a provision in the Implementation Plan of an effective date of seven years for existing schemes that were not previously identified as SPS.
	Response: Thank you for your comments. 1. The drafting team contends the existing sentence “The following do not individually constitute a RAS” accomplishes what you are requesting and declines to make the suggested change. 2. While we agree that the example you provide would not individually be considered RAS, the drafting team did not intend to develop an all-inclusive list of examples in each of the exclusions. The drafting team agrees that a reverse power relay by itself would not constitute a RAS. 3. Your comment appears to address classification types. The classification of a RAS is not necessary for defining whether or not a scheme qualifies as a RAS; therefore, the drafting team decided not to include RAS classification types within the definition. The classifications are more appropriately addressed concurrently with revisions to the RAS-related Reliability Standards. This issue will be addressed during the standards development phase of the project in 2015. 4. TPL-001-4 anticipates construction of major transmission and/or generation facilities to achieve compliance. That may require significant permitting effort as well as budgeting, design, scheduling and construction, etc. RAS are often used exactly because they can be implemented more quickly and cheaply and with less overall effort than the major system additions anticipated by TPL-001-4. The drafting team does not agree that an existing scheme newly defined as a RAS would require major system upgrades or 7 years to complete. The drafting team declines to make the suggested change.		
15	Tacoma Power	No	1. Regarding one comment previously submitted by Tacoma Power, the drafting team responded that they “did not try to create an exhaustive list of examples.” While Tacoma Power acknowledges that it is difficult to create an exhaustive list, Tacoma Power does believe that the following clarification, either in the definition, or in the FAQ document, needs to be made. The following type of scheme should be explicitly identified as an exclusion since classification of this type of scheme has been a gray area; clarification is needed: “Thermal protection systems intended to mitigate thermal damage, within expected system re-

#	Organization	Yes/ No	Question 1 Comment
			dispatch response times, such as 10 minutes or greater." However, if the drafting team intended for this type of scheme generally to be RAS, then clarification is also needed. 2. In the proposed RAS definition, change "MW and Mvar" to "MW and/or Mvar." Otherwise, the definition suggests that both MW and Mvar must be adjusted, which might not be the case for every RAS. 3. In the proposed RAS definition, would automatic sequences that proceed when manually initiated solely by plant personnel, substation operators, or similar on-site personnel still be considered an exclusion if directed by a System Operator? Tacoma Power believes that the answer should be yes. 4. In the FAQ document, under "Automatic Reclosing schemes," the drafting team stated that "system reconfiguration which transfers the load to another source typically would be a RAS." Tacoma Power believes that system reconfiguration primarily intended to restore load following a loss of that load should typically fall under the exclusion (d). When the FAQ document states that "system reconfiguration which transfers the load to another source typically would be a RAS," Tacoma Power understands this would be a true statement if and only if the system reconfiguration is intended to support one of the five bulleted objectives identified in the proposed RAS definition. 5. In the FAQ document, under "Schemes applied on an Element for non-Fault conditions, such as, but not limited to, generator loss-of-field, transformer top-oil temperature, overvoltage, or overload to protect the Element against damage by removing it from service," Tacoma Power maintains that, in lieu of removing the Element from service due to an overload, taking action such as adjusting generation, especially at the same location (power plant) of the overload, would equally satisfy the exclusion, especially if removal of the Element, after time delay, is employed as a fallback. 6. Regarding the implementation plan for PRC-024-1(X), it appears that the 40%, 60%, and 80% milestones contained in PRC-024-1 may have been eliminated. If this is not true, please provide clarification as to where these milestones will be documented if PRC-024-1(X) is approved. In any event, these milestones should be maintained.
	Response: Thank you for your comments. 1. Thermal protective systems are addressed by Exclusion 'e'. Re-dispatch by a System Operator is a manual action and therefore does not meet the definition of a RAS. 2. The parenthetical is an example of generation types and is consistent with the existing language of the SPS/RAS definition. The drafting team declines to make the suggested change. 3. The drafting team agrees. Any individual taking manual action would not be a RAS (Exclusion 'k').		

#	Organization	Yes/ No	Question 1 Comment
	4. If you are re-energizing the load then Exclusion 'd' does apply. System reconfiguration which transfers the load to another source for purposes other than load restoration typically would be a RAS. 5. The drafting team contends that the scheme you describe in your example would be a RAS. Exclusion 'e' would not apply because you are taking action on an Element other than the overloaded Element. 6. The drafting team did not intend to truncate the implementation of PRC-024-1. To avoid any complications related to the timing of the implementation, PRC-024-1 has been removed from the project and transition from the use of the definition of SPS to RAS will occur at a later date.		
16	ITC	No	1. Remove "such as" from "RAS accomplish objectives such as:" 2. Exclusion A should remove "BES". E.g. non-BES transformers connected to BES lines or buses have fault protection which must trip for transformer faults to accomplish RAS objectives. However, these should be excluded from RAS. 3. Reverse power relaying on distribution-transmission interface should be excluded from RAS. This could be a separate exclusion or a modification to Exclusion J.
	Response: Thank you for your comments. 1. The drafting team did not intend to make the list of objectives all-inclusive, they are examples so "such as" is necessary. 2. The drafting team agrees that Protection Systems installed for the purpose of detecting Faults on non-BES Elements do not meet the definition of RAS, and thus are not subject to the RAS-related NERC Reliability Standards. The drafting team did not remove the BES modifier. 3. The drafting team agrees that reverse power relaying on a distribution-transmission interface is not a RAS, Exclusions 'e' or 'j' would apply depending upon the application. No change to the exclusion is necessary.		
17	Dominion NERC Compliance Policy	No	1. Section D: Under section d; reclosing should not be capitalized, this is not a defined term in the NERC Glossary of terms. 2. Section F: Although the SDT responded to Dominion's prior comments, Dominion believes that the SDT's response is deficient." in that Dominion does not support the inclusion of the phrase, "and that are located at and monitor quantities solely at the same station as the Element being switched or regulated." Why does it make a difference whether the controller is local or remote? The advent of high-speed phase measurement units (PMUs) and faster computer systems will eventually allow wide area control. This will become essential as the customer's load characteristic evolves (less voltage and frequency dependency means local PSSs will be less effective). We are concerned that the definition in general will hamper innovation. Right now there are schemes that control LTC's and capacitors to minimize losses. Certainly

#	Organization	Yes/ No	Question 1 Comment
			these are not RAS. There are EMS controls such as what PJM uses that dispatch generation pre-contingency to avoid overloads/voltage problems. These are not RAS either. Eventually computer EMS systems will become fast and robust enough to drop load or reconfigure the system so quickly that wide area blackouts will be virtually eliminated. Recall that only 500 MWs of load drop would have stopped the 2003 blackout. Therefore wide area systems that generically react to problems (not designed for a single specific contingency (if line A opens, do xyz action)) should not be RAS. 3. Section N: Dominion does not agree with addition of (n) as written. The first paragraph of the definition states "A scheme designed to detect predetermined System conditions and automatically take corrective actions that may include, but are not limited to, adjusting or tripping generation....So, to the extent automatic generation control (AGC), generation excitation [e.g. automatic voltage regulation (AVR) and power system stabilizers (PSS)], fast valving, or speed governing is used in such a scheme it can't be excluded. It may help clarify if the SDT expanded upon the intent of the phrase "The following do not individually constitute a RAS." 4. General comment: The elimination of SPS terminology , the move to one term- RAS and the addition of exclusion language only complicates the historical view on "special" schemes. This change will cause many US utilities burden due to references to SPS's that will result in numerous revisions to existing compliance documentation, training programs, reference prints, and scheme application operating procedures. The majority of US utilities and at Protection Conferences the term SPS is used while the minority (most in WECC region) use the term RAS. Many times these schemes are made up primarily of protective relays to implement "special" applications. This change in definition is unnecessary and only introduces more questions when exclusions are introduced.
	Response: Thank you for your comments. 1. The drafting team made the suggested change. 2. The drafting team asserts that there are significant reliability risks associated with the PMU and EMS schemes you describe; consequently, these schemes are appropriately classified as RAS. The drafting team disagrees with the statement that RAS classification would hamper innovation. The difference between local and remote control is the associated increase of reliability risk. Schemes that act remotely are more likely to have a broad impact on the System and merit the more rigorous oversight required for RAS. For your examples: the drafting team agrees that schemes that control LTC's and capacitors to minimize losses are typically not RAS; EMS controls for generation dispatch are typically not RAS; however, "wide area systems that generically react to problems" by dropping load or reconfiguring the System are typically RAS.		

#	Organization	Yes/ No	Question 1 Comment
			3. The drafting team agrees that any of the excluded functions could be part of a larger scheme that could be a RAS. It appears that you understand this concept; consequently, the drafting team disagrees that the phrase "The following do not individually constitute a RAS" needs revision. 4. The drafting team appreciates the fact that the selected term will cause some necessary documentation changes for entities but asserts that the use of the single term RAS will provide consistency and avoid the confusion associated with the SPS term. The drafting team acknowledges that entities will need time to adapt to the RAS term. The definition of RAS must be broad enough to include the variety of System conditions monitored and corrective actions taken by RAS. Because of the diversity of RAS in both action and objective, the practical approach to the definition is to begin with a wide scope and then list specific exclusions. Without the exclusions, equipment and schemes that should not be considered RAS could be subject to the requirements of the RAS-related NERC Reliability Standards. The exclusion list also assures that commonly applied protection and control systems are not unintentionally included as RAS. Note, if a scheme or protective system is not explicitly defined as an exclusion, it is not by default a RAS - the definition of RAS must be met in its entirety. The existing definition of SPS/RAS also includes exclusions.
18	Peak Reliability	No	1. The new exclusion (n) that reads: "Generator controls such as, but not limited to, automatic generation control (AGC), generation excitation [e.g. automatic voltage regulation (AVR) and power system stabilizers (PSS)], fast valving, and speed governing" excludes certain historical RAS actions such as AGC blocking. It is agreed some generator controls like AVR and PSS are not RAS. See added inclusion list below. 2. Adding BES to the possible objectives can be confusing to interpret. It can be interpreted that RAS are restricted to BES elements when that is not the intention of the standard. Peak recommends either removing "BES" from possible objectives or adding "(including sub-100 kV facilities identified as necessary by the Reliability Coordinator)" as shown below. Note this language is consistent with IRO-002-4 R3. 3. It might be beneficial in the background information to include that RAS is distinctly different than industry standard (IEEE) definition for System Integrated Protection Scheme (SIPS). 4. Proposed definition: A scheme designed to detect predetermined System conditions and automatically take corrective actions that may include, but are not limited to, adjusting or tripping generation (MW and Mvar), tripping load, or reconfiguring a System(s). RAS accomplish objectives such as: o Meet requirements identified in the NERC Reliability Standards; o Maintain Bulk Electric System (BES) (including sub-100 kV facilities identified as necessary by the Reliability Coordinator) stability;

#	Organization	Yes/ No	Question 1 Comment
			o Maintain acceptable BES (including sub-100 kV facilities identified as necessary by the Reliability Coordinator) voltages; o Maintain acceptable BES (including sub-100 kV facilities identified as necessary by the Reliability Coordinator) power flows; o Limit the impact of Cascading or extreme events. The following constitute RAS: o AGC blocking o Fast valving The following do not individually constitute a RAS: a. Protection Systems installed for the purpose of detecting Faults on BES Elements and isolating the faulted Elements b. Schemes for automatic underfrequency load shedding (UFLS) and automatic undervoltage load shedding (UVLS) comprised of only distributed relays c. Out-of-step tripping and power swing blocking. d. Automatic Reclosing schemes. e. Schemes applied on an Element for non-Fault conditions, such as, but not limited to, generator loss-of-field, transformer top-oil temperature, overvoltage, or overload to protect the Element against damage by removing it from service. f. Controllers that switch or regulate one or more of the following: series or shunt reactive devices, flexible alternating current transmission system (FACTS) devices, phase-shifting transformers, variable-frequency transformers, or tap-changing transformers; and, that are located at and monitor quantities solely at the same station as the Element being switched or regulated. g. FACTS controllers that remotely switch static shunt reactive devices located at other stations to regulate the output of a single FACTS device h. Schemes or controllers that remotely switch shunt reactors and shunt capacitors for voltage regulation that would otherwise be manually switched i. Schemes that automatically de-energize a line for a non-Fault operation when one end of the line is open j. Schemes that provide anti-islanding protection (e.g., protect load from effects of being isolated with generation that may not be capable of maintaining acceptable frequency and voltage)

#	Organization	Yes/ No	Question 1 Comment
			k. Automatic sequences that proceed when manually initiated solely by a System Operator l. Modulation of HVdc or FACTS via supplementary controls, such as angle damping or frequency damping applied to damp local or inter-area oscillations m. m. Sub-synchronous resonance (SSR) protection schemes that directly detect sub-synchronous quantities(e.g., currents or torsional oscillations) n. Generator controls such as, but not limited to, automatic generation control (AGC), generation excitation [e.g. automatic voltage regulation (AVR) and power system stabilizers (PSS)], fast valving, and speed governing
	Response: Thank you for your comments. 1. The drafting team contends that AGC blocking by itself is not a RAS; however, it could be an integral part of a RAS. 2. The definition of RAS does not necessarily exclude sub-100 kV facilities. Facilities that impact the BES can be subject to NERC jurisdiction. If an entity such as a Reliability Coordinator determines that sub-100kV facilities should be included in the BES, they can submit a request to the BES Exception Process for inclusion. The drafting team contends that the RAS definition and IRO-002-4 do not conflict with each other. 3. Several IEEE papers define a similar term to SPS: System Integrity Protection System (SIPS). Adopting the SIPS definition is not appropriate because it is more inclusive than NERC's definition: "The SIPS encompasses special protection system (SPS), remedial action schemes (RAS), as well as other system integrity schemes, such as underfrequency (UF), undervoltage (UV), out-of-step (OOS), etc." NERC applies special consideration to UF and UV load shedding schemes in the Reliability Standards and considers OOS relaying in the context of traditional protection systems. Thus, SIPS is not an appropriate term for use in the Reliability Standards, and a new definition of SPS is more appropriate.		
19	Consumers Energy Company	No	The sentence originally read "RAS accomplish one or more of the following objectives:" This implies that it has to meet at least one of these criteria to be an applicable RAS. It was changed to read "RAS accomplish objectives such as:" This now implies that this is a just a list of examples but there may be other objectives that apply. I was relying on this original wording to limit the compliance exposure to BES systems only. The way it is written now it can be interpreted to apply to schemes on the non-BES system. Consumers Energy will vote negative on this ballot until this wording is changed back or some other way is used to limit this definition to only BES schemes.
	Response: Thank you for your comment. Regardless of the objective, schemes applied on non-BES systems that do not have a BES reliability impact would not be RAS; however, schemes applied on non-BES systems that do impact the BES reliability would be RAS.		

<table>
<tr><th>#</th><th>Organization</th><th>Yes/ No</th><th>Question 1 Comment</th></tr>
<tr><td>20</td><td>Tennessee Valley Authority</td><td>No</td><td>1. We agree that using a single term should help bring the industry toward a common understanding/usage of the term. However, we disagree with the revised draft definition. Bullets 2-5 can be interpreted to cover objectives beyond NERC Reliability Standards, when taken in context with the first bullet. The scope of the definition should be limited to applications that are relevant to the NERC Reliability Standards in which the term is used.
2. We think it's appropriate to address exclusions, however when the exclusion list is this long (and perhaps growing) it highlights the challenge in developing a good base definition for what constitutes a RAS NERC-wide. An alternative would be to "catalog" the RAS exclusions in a separate NERC reference document that could be revised without revising the base RAS definition.
3. We feel that the implementation period should be extended to 5 years or more for existing schemes that are categorized as RAS by this definition change. Since the definition affects many additional standards, this could entail more work than anticipated to ensure full compliance with each one under the new definition.</td></tr>
<tr><td></td><td colspan="3"><u>Response</u>: Thank you for your comments.
1. The drafting team disagrees. Schemes have been and may be applied for objectives beyond satisfying reliability standards. These schemes need similar review and oversight regarding design and implementation adequacy, coordination, misoperation, unintended consequences, etc. as schemes applied for satisfying Reliability Standards and therefore also need to be classified as RAS.
2. Such a catalog would still be essential to determining RAS versus non-RAS and an additional document would be more cumbersome.
3. The Implementation Plan already provides thirty-six (36) months from the time the definition is approved by an applicable governmental authority. The time is noted in the twelve (12) months leading up to the Effective Date of the standard plus the twenty four (24) months noted following the Effective Date. This only applies to existing schemes that must transition to RAS due to the revised definition. When the drafting team revises the RAS-related standards, those standards will include their own implementation periods. The drafting team agrees that a thorough review of all standards is prudent and asserts that the time period provided in the Implementation Plan is sufficient to evaluate existing compliance programs regarding the definition change.</td></tr>
<tr><td>21</td><td>Wisconsin Electric Power Co</td><td>No</td><td>We propose that the following changes be made to the list of exclusions:
1. Item (e) - To "schemes applied to an Element for non-Fault conditions", add the following: over-excitation, over/under- frequency, motoring, load rejection, and unbalanced system conditions. We believe these are</td></tr>
</table>

#	Organization	Yes/ No	Question 1 Comment
			abnormal, non-Fault system conditions for which protection is commonly applied, and should not be considered RAS. 2. Item (n) Replace "Generator controls ..." with "Generator or turbine controls..." 3. Add a new exclusion for protective functions for black start generators that may be implemented to allow greater than normal voltage or frequency tolerance during restoration conditions.
	Response: Thank you for your comments. 1. While we agree that the examples you provide would not individually be considered RAS, the drafting team did not intend to develop an all-inclusive list of examples in each of the exclusions. 2. The drafting team contends that Generator controls includes turbine controls, and declines to make the suggested change. 3. During system restoration, the System Operators are manually controlling the black start of generators which falls outside the definition of RAS. By definition, RAS automatically take corrective actions.		
22	WAPA	No	Western requests the SDT re-consider an additional exclusion for "cross-tripping schemes within the same station". We continue to believe such a simplistic localized hard-wired scheme should be outside the purview of a RAS and its associated scrutiny and approval, which particularly does not lend itself to the operating horizon. By and large, implementation of a cross-trip within the same station is utilized to mitigate a thermal SOL by tripping another element in lieu of the overloaded element. Not only does this action mitigate an SOL, it most often improves the robustness and reliability of the remaining BES system to deliver firm commitments. Without such exclusion, the SOL element often must be opened pre-contingent, thus further degrading the robustness of the BES. The proposed exceptions are appropriate; however, they are still inadequate. The end effect of the proposed RAS definition basically captures any protection action and/or scheme that is beyond standard/historical individual relaying protection package functions, thereby limiting the 'art' of system protection to 'maximize the robustness of the post-contingent BES system'. On this basis, Western suggests the SDT reconsider the definition's strict inclusion of "reconfiguring a System(s)". Western's suggestion of excluding "cross-tripping schemes within the same station" for sake of mitigating a potential SOL is more benign should it fail to operate than failure of the currently proposed exclusion of "out-of-step tripping and power swing blocking", as an example. Did the last SPS definition's use of the language "acceptable voltage, or power flow" intend to capture the granularity of localized SOLs versus larger and/or regional BES impacts? Further, the definition does not delineate lower risk "localized" schemes. Consequently, there is no expeditious approval mechanism to implement a benign localized scheme within a reasonable timeframe for the operating horizon. This is a real issue. Several years ago following spring flooding, Western had

#	Organization	Yes/ No	Question 1 Comment
			transmission lines toppling in standing water and needed to quickly implement a cross-trip scheme to facilitate needed and urgent outages for maintenance/repair (within days). Without such flexibility, customer service and reliability is further reduced. Western suggests the SDT recognize "localized" benign schemes either outside the scrutiny of a RAS all together, or at minimum, allow such schemes to be implemented for 1 year with the caveat that the scheme be vetted through an expedited stakeholder process. If the "localized" scheme ultimately must receive RAS review and scrutiny, it should be done expeditiously. Currently, the WECC RASRS are attempting to streamline "localized' schemes.
	Response: Thank you for your comments. The drafting team contends that performing switching in the same substation (including transfer or cross-trip schemes) that trip Elements other than the protected Element is a System reconfiguration and is therefore a RAS. Reconfiguring the System can be a critical factor in reliability and merits the review and oversight associated with RAS. The classification of a RAS is not necessary for defining whether or not a scheme qualifies as a RAS; therefore, the drafting team decided not to include RAS classification types within the definition. The classifications are more appropriately addressed concurrently with revisions to the RAS-related Reliability Standards. Comments received from the informal comment period were valuable during the drafting team's deliberations and are publicly available on the project's web page. The proposed definition was posted for formal comment and ballot following revisions made based in-part on stakeholder input. This issue will be addressed by the RAS classification during the standards development phase of the project in 2015. Similarly, RAS review will be addressed during the standards development phase of the project.		
23	PacifiCorp	No	Western requests the SDT to re-consider an additional exclusion for "cross-tripping schemes within the same station". We continue to believe such a simplistic localized scheme should be outside the purview of a RAS and its associated scrutiny and approval, which particularly does not lend itself to the operating horizon. By and large, implementation of a cross-trip within the same station is utilized to mitigate a thermal SOL by tripping another element in lieu of the overloaded element. Not only does this action mitigate a thermal SOL, it most often improves the robustness and reliability of the remaining BES system to deliver firm commitments. The proposed exceptions are appropriate; however, they are still inadequate. The end effect of the proposed RAS definition includes any protection action and/or scheme that is beyond standard/historical individual relaying protection package functions, thereby limiting the 'art' of system protection to include the objective of 'maximizing the robustness of the remaining BES system'. On this basis, Western suggests the SDT reconsider the definition strictly including "reconfiguring a System(s)".

#	Organization	Yes/ No	Question 1 Comment
			The suggestion of excluding "cross-tripping schemes within the same station" for sake of mitigating a potential thermal overload is more benign should it fail to operate than failure of the currently proposed exclusion of "out-of-step tripping and power swing blocking", as an example. Further, the definition does not delineate lower risk "localized" schemes. Consequently, there is no expeditious avenue to implement a localized benign scheme within a reasonable timeframe for the operating horizon. This is a real issue. As example, following the flood of 2011, Western had transmission lines toppling in standing water and needed to quickly implement a cross-trip scheme to facilitate needed and urgent outages for maintenance/repair (within days). Western suggests the SDT recognize "localized" benign schemes either outside the scrutiny of a RAS all together, or at minimum, allow such schemes to be implemented for 1 year with the caveat that the scheme be vetted through an expedited stakeholder process. If the "localized" scheme ultimately must receive RAS review and scrutiny, it should be done expeditiously. Currently, the WECC RASRS attempts to streamline "localized' schemes.
	Response: Thank you for your comments. The drafting team contends that performing switching in the same substation (including transfer- or cross-trip schemes) that trip Elements other than the protected Element is a System reconfiguration and is therefore a RAS. Reconfiguring the System can be a critical factor in reliability and merits the review and oversight associated with RAS. The classification of a RAS is not necessary for defining whether or not a scheme qualifies as a RAS; therefore, the drafting team decided not to include RAS classification types within the definition. The classifications are more appropriately addressed concurrently with revisions to the RAS-related Reliability Standards. Comments received from the informal comment period were valuable during the drafting team's deliberations and are publicly available on the project's web page. The proposed definition was posted for formal comment and ballot following revisions made based in-part on stakeholder input. This issue will be addressed by the RAS classification during the standards development phase of the project in 2015. Similarly, RAS review will be addressed during the standards development phase of the project.		
24	Florida Municipal Power Agency	Yes	FMPA agrees with the changes to the definition of Remedial Action Scheme but maintains that a thorough review of all standards should be conducted to look for uses of the terms Protection System(s) and protection system(s) to determine if it was intended to include SPS/RAS as part of the requirement. Simply removing the statement "These schemes are not Protection Systems; however, they may share components with Protection Systems" does not accomplish the same objective. As an example, PER-005-1 R3.1 may or may not be interpreted to include Remedial Actions Schemes.
	Response: Thank you for your comment. The drafting team will conduct a review as part of the standards development process.		

#	Organization	Yes/ No	Question 1 Comment
25	American Transmission Company, LLC	Yes	However, ATC suggests the addition of parenthetical verbiage similar to today's SPS definition to exclusion (c). The suggested change to exclusion (c) would read "Out-of-step tripping and power swing blocking (not designed as an integral part of an RAS)."
	Response: Thank you for your comment. The drafting team contends the existing sentence "The following do not individually constitute a RAS" accomplishes what you are requesting and declines to make the suggested change.		
26	Ingleside Cogeneration LP	Yes	Ingleside Cogeneration LP (ICLP) agrees that the latest version of the RAS definition is a distinct improvement over its predecessor. The removal of the catch-all inclusion for schemes that address "other Bulk Electric System (BES) reliability concerns" is the primary reason for our "Yes" vote this time around. With it, the definition inferred that every automated system that has even the most tenuous tie to reliability could be considered as RAS - which clearly is not the intent of this initiative. Another positive modification in our view is the new exclusion for generator control systems like AGC, PSS, AVR's, and governors. These clearly are not Remedial Action Schemes, but without the exclusion it is possible to construe them as such. While not affecting our vote, ICLP would like a better explanation to the elimination of categories of RAS - as originally recommended by the SPCS. The only response we saw was a statement that "informal feedback from many stakeholders" led to this decision. Perhaps there are very good reasons they were only shared with the project team, but the Standards Development Process is expected to be open and deliberative. The informal process is important in order to stimulate good ideas and discussion, but should not play a part in the review/ballot unless it is documented and vetted by all participating stakeholders.
	Response: Thank you for your comment. The classification of a RAS is not necessary for defining whether or not a scheme qualifies as a RAS; therefore, the drafting team decided not to include RAS classification types within the definition. The classifications are more appropriately addressed concurrently with revisions to the RAS-related Reliability Standards. Comments received from the informal comment period were valuable during the drafting team's deliberations and are publicly available on the project's web page. The proposed definition was posted for formal comment and ballot following revisions made based in-part on stakeholder input.		
27	PNM Resources Inc.	Yes	PNM Resources appreciates the work of the Drafting team and would request that there be a clarification that 'Temporary Outage Action Plans' or 'TOAPs' (used in the TRE/ERCOT area) are not included in the definition of RAS. It appears that TOAPs used by ERCOT entities would primarily be subject to 'Exclusion E' as they are temporary schemes that would switch elements based on voltage or to avoid thermal overload on non-faulted elements.

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			They could additionally fall under 'Exclusion K' and would take the action that would normally be executed by System Operators manually. TOAPs are developed to protect against a temporary condition that could arise during a planned maintenance outage which are utilized widely in the TRE/ERCOT area and in PNM Resources' opinion should not be considered RAS which would then require that any Temporary Outage Action Plan would trigger CIP-002-5 inclusion of a BES asset to evaluate and have to apply CIP protections to systems not typically included in CIP scope.
	Response: Thank you for your comment. The drafting team asserts that the 'temporary' status is not relevant in the definition of RAS. Without detailed information, the drafting team cannot determine whether or not specific schemes (TOAPs) would be RAS or fall under any of the exclusions.		
28	SPP Standards Review Group	Yes	We appreciate the effort of the drafting team in developing the proposed revised definition. The new revision is much clearer. The expansion of the list of exclusions has been a big help. Whenever the NERC Glossary of Terms is referenced in the standard and in the Background and FAQ document, the full name is used - Glossary of Terms Used in NERC Reliability Standards. This is the case with one exception, in the 1st line of the answer to the 1st question under the FAQ section of the Background and FAQ document. Please make the appropriate change here.
	Response: Thank you for your comment. The drafting team made the suggested change.		
29	Exelon Companies	Yes	We think the following should be considered. Exclusion "e" specifically includes "transformer top-oil temperature". Other common transformer protection such as "winding temperature" and "loss of cooling" measure distinctly different parameters from top oil temperature but share a similar goal. These protection schemes seem conspicuous by their absence from exclusion "e". They are arguably covered under the "but not limited to" clause but especially the former seems common enough that it merits specific mention.
	Response: Thank you for your comment. While we agree that the examples you provide would not individually be considered RAS, the drafting team did not intend to develop an all-inclusive list of examples in each of the exclusions.		
30	Xcel Energy	Yes	While Xcel Energy agrees with the revised definition, we offer the comments below for the Drafting Team's consideration: We observe that the proposed new RAS definition is substantively and structurally very similar to the existing SPS/RAS definition. The most significant change in the proposed new definition is the detailed list of 14 exclusions versus the 3 exclusions in the existing definition - we agree that the additional exclusions are a useful enhancement.

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			However, the functional description of RAS characterized by its purpose and actions is almost the same in both definitions - we note that the first sentence in both definitions contains identical verbiage “designed to detect predetermined System conditions and (automatically) take corrective actions...”. In the new definition, this is followed by a listing of typical corrective actions before stating the reliability objectives in the second sentence - whereas the existing definition enumerates them both in the second sentence. However, the three examples provided for corrective actions and objectives are common to both definitions, and are supplemented with two additional reliability objectives in the proposed new definition. Given these substantive commonalities, we recommend that the proposed new definition be restructured as follows to make it easier to discern the similarities retained and the enhancements introduced relative to the existing definition, as well as improve its contextual clarity and readability. [A scheme designed to detect predetermined System conditions and automatically take corrective actions <to> accomplish <BES reliability> objectives such as: (1) Meet requirements identified in the NERC Reliability Standards (2) Maintain Bulk Electric System (BES) stability (3) Maintain acceptable BES voltages (4) Maintain acceptable BES power flows (5) Limit the impact of Cascading or extreme events. Corrective actions may include, but are not limited to, adjusting or tripping generation (MW and Mvar), tripping load, or reconfiguring System(s).] Irrespective of whether the proposed restructuring of the definition is implemented or not, we suggest that the reliability objectives be re-sequenced. Due to the non-specific “catch-all” nature of the first objective (meet requirements in reliability standards), we recommend that it be listed as the last objective to follow the four specific attributes of reliable system performance.
	Response: Thank you for your comment. The drafting team appreciates the suggestion but declines to make the changes.		
31	American Electric Power	Yes	1. Within the section “The following do not individually constitute a RAS”, AEP recommends the following changes: Item a: Delete “BES” so that it reads “Protection Systems installed for the purpose of detecting Faults on Elements and isolating the faulted Elements”.

#	Organization	Yes/ No	Question 1 Comment
			2. Item e: Add the qualifier “reverse power” so that it reads “Schemes applied on an Element for non-Fault conditions, such as, but not limited to, generator loss-of-field, transformer top-oil temperature, overvoltage, reverse power, or overload to protect the Element against damage by removing it from service.” 3. Item k: Delete the phrase “that proceed when” and add the text “that proceeds directly to a desired system state” so that it reads “Automatic sequences manually initiated solely by a System Operator that proceeds directly to a desired system state.”
	Response: Thank you for your comments. 1. The drafting team agreed that Protection Systems installed for the purpose of detecting Faults on non-BES Elements do not meet the definition of RAS, and thus are not subject to the RAS-related NERC Reliability Standards. The drafting team did not remove the BES modifier. 2. While we agree that the example you provide would not individually be considered RAS, the drafting team did not intend to develop an all-inclusive list of examples in each of the exclusions. The drafting team agrees that a reverse power relay by itself would not constitute a RAS. 3. Please see the ‘Exclusion List Explanations’ in the FAQ regarding Exclusion ‘k’. No change made to the definition.		
32	Arizona Public Service Co	Yes	
33	Southern Company: Southern Company Services, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power	Yes	

#	Organization	Yes/ No	Question 1 Comment
	Company; Mississippi Power Company; Southern Company Generation; Southern Company Generation and Energy Marketing		
34	Pepco Holdings Inc	Yes	
35	Independent Electricity System Operator	Yes	
36	Idaho Power	Yes	
37	South Carolina Electric & Gas Co.	Yes	
38	Oncor Electric Delivery LLC	Yes	
39	PJM Interconnection	Yes	

#	Organization	Yes/ No	Question 1 Comment
40	Manitoba Hydro	Yes	

Additional Comments:

Associated Electric Cooperative, Inc.
Phil Hart

1. No
Comments:
The purpose of this project is stated as, "...assist the industry with the application of the revised definition." However the current revision seems to be providing more confusion than clarity. Because both the Inclusions and Exclusions are so broad, it would seem everything is first included in a RAS, and then excluded, leaving nothing. AECI would suggest the SDT at least limit such broad inclusions to begin with, and in turn this would require fewer exclusions on the back-end.

Response: Thank you for your comment. The definition must be broad enough to include the variety of System conditions monitored and corrective actions taken by RAS. Because of the diversity of RAS in both action and objective, the practical approach to the definition is to begin with a wide scope and then list specific exclusions. Without the exclusions, equipment and schemes that should not be considered RAS could be subject to the requirements of the RAS-related NERC Reliability Standards. The exclusion list also assures that commonly applied protection and control systems are not unintentionally included as RAS. Note, if a scheme or protective system is not explicitly defined as an exclusion, it is not by default a RAS - the definition of RAS must be met in its entirety.

END OF REPORT