NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments

Project 2012-13 NUC - Nuclear Plant Interface Coordination

The Nuclear Plant Interface Coordination Drafting Team thanks all commenters who submitted comments on the standard. These standards were posted for a 30-day public comment period from April 8, 2014 through May 22, 2014. Stakeholders were asked to provide feedback on the standards and associated documents through a special electronic comment form. There were 29 sets of comments, including comments from approximately 103 different people from approximately 57 companies representing all 10 Industry Segments as shown in the table on the following pages.

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

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Valerie Agnew, at 404-446-2566 or at valerie.agnew@nerc.net . In addition, there is a NERC Reliability Standards Appeals Process.[1]

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

Index to Questions, Comments, and Responses

The Industry Segments are:

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

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

	Additional Member	Additional Organization	Region	Segment Selection
1.	Alan Adamson	New York State Reliability Council, LLC	NPCC	10
2.	David Burke	Orange and Rockland Utilities Inc.	NPCC	3
3.	Greg Campoli	New York Independent System Operator	NPCC	2
4.	Sylvain Clermont	Hydro-Québec TransÉnergie	NPCC	1
5.	Ben Wu	Orange and Rockland Utilities Inc.	NPCC	1
6.	Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
7.	Mike Garton	Dominion Resources Services, Inc.	NPCC	5
8.	Matt Goldberg	ISO - New England	NPCC	2
9.	Michael Jones	National Grid	NPCC	1
10.	Mark Kenny	Northeast Utilities	NPCC	1

Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
			1	2	3	4	5	6	7	8	9	10
11. Christina Koncz	PSEG Power, LLC	NPCC 5										
12. Helen Lainis	Independent Electricity System Operator	NPCC 2										
13. Wayne Sipperly	New York Power Authority	NPCC 5										
14. Alan MacNaughton	New Brunswick Power Corp.	NPCC 9										
15. Bruce Metruck	New York Power Authority	NPCC 6										
16. Silvia Parada Mitchell	NextEra Energy, LLC	NPCC 5										
17. Lee Pedowicz	Northeast Power Coordinating Council	NPCC 10										
18. Robert Pellegrini	The United Illuminating Company	NPCC 1										
19. Si Truc Phan	Hydro-Québec TransÉnergie	NPCC 1										
20. David Ramkalawan	Ontario Power Generation, Inc.	NPCC 5										
21. Brian Robinson	Utility Services	NPCC 8										
22. Ayesha Sabouba	Hydro One Networks Inc.	NPCC 1										
23. Brian Shanahan	National Grid	NPCC 1										
2. Group	Mike O'Neil	Florida Power & Light	X									
No Additional Responses												
3. Group	Janet Smith	Arizona Public Service Company	X		X		X	X				
No Additional Responses												
4. Group	Cindy Stewart	FirstEnergy Corp	X		X	X	X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	William Smith	FirstEnergy Corp.	RFC	1
2.	Douglas Hohlbaugh	Ohio Edison	RFC	4
3.	Kenneth Dresner	FirstEnergy Solutions Corp.	RFC	5
4.	Kevin Querry	FirstEnergy Solutions Corp.	RFC	6

5. Group	Mike Garton	Dominion	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.	Connie Lowe	NERC Compliance Policy	NA - Not Applicable	1, 3, 5, 6									
2.	Louis Slade	NERC Compliance Policy	NA - Not Applicable	1, 3, 5, 6									
3.	Randi Heise	NERC Compliance Policy	NA - Not Applicable	1, 3, 5, 6									
4.	Chip Humphrey	Power Generation Compliance	NA - Not Applicable	5									
5.	Dan Goyne	Power Generation Compliance	NA - Not Applicable	5									
6.	Jarad L. Morton	Power Generation Compliance	NPCC	5									
7.	Larry Whanger	Power Generation Compliance	SERC	5									
8.	Nancy Ashberry	Power Generation Compliance	RFC	5									
9.	Angela Park	Electric Transmission Compliance	SERC	1, 3									
10.	Candace L. Marshall	Electric Transmission Compliance	SERC	1, 3									
11.	John Calder	Electric Transmission Compliance	SERC	1, 3									
12.	Larry Nash	Electric Transmission Compliance	SERC	1, 3									
13.	Larry W. Bateman	Electric Transmission Compliance	SERC	1, 3									
14.	Jeffrey N. Bailey	Nuclear Compliance	SERC	5									
15.	Tom Huber	Nuclear Compliance	NPCC	5									
6.	Group	Jim Porter	SERC OC Review Group	X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Connie Lowe	Dominion	SERC	1, 3, 6
2.	Mike Garton	Dominion	SERC	1, 3, 6

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
7.	Group	Frank Gaffney	Florida Municipal Power Agency	X		X	X	X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Tim Beyrle	City of New Smyrna Beach	FRCC	4
2.	Jim Howard	Lakeland Electric	FRCC	3
3.	Greg Woessner	Kissimmee Utility Authority	FRCC	3
4.	Lynne Mila	City of Clewiston	FRCC	3
5.	Cairo Vanegas	Fort Pierce Utility Authority	FRCC	4
6.	Randy Hahn	Ocala Utility Services	FRCC	3
7.	Stanley Rzad	Keys Energy Services	FRCC	1
8.	Don Cuevas	Beaches Energy Services	FRCC	1
9.	Mark Schultz	City of Green Cove Springs	FRCC	3

8.	Group	Marcus Pelt	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				

No Additional Responses

9.	Group	Brandy Spraker	Tennessee Valley Authority	X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Lee Thomas		SERC	5
2.	Darrin Church		SERC	1
3.	Marjorie Parsons		SERC	6
4.	DeWayne Scott		SERC	1
5.	David Thompson		SERC	5
6.	Ian Grant		SERC	3

10.	Group	Brian Van Gheem	ACES Standards Collaborators						X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	David Viar	Southern Maryland Electric Coop.	RFC	3
2.	Michael Brytowski	Great River Energy	MRO	1, 3, 5, 6
3.	Brian Hobbs	Western Farmers Electric Coop.	ERCOT	1, 5

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
4.	Ellen Watkins	Sunflower Electric Power Corp.	SPP 1										
11.	Group	Colby Bellville	Duke Energy	X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Doug Hils	Duke Energy	RFC	1
2.	Lee Schuster	Duke Energy	FRCC	3
3.	Dale Goodwine	Duke Energy	SERC	5
4.	Greg Cecil	Duke Energy	RFC	6

12.	Group	Kathleen Black	DTE Electric			X	X	X					

	Additional Member	Additional Organization	Region	Segment Selection
1.	Kent Kujala	NERC Compliance	RFC	3
2.	Daniel Herring	NERC Training & Standards Development	NPCC	4
3.	Mark Stefaniak	Regulated Marketing	RFC	5
4.	Karie Barczak	NERC Compliance		
5.	Barbara Holland	DO SOC		
6.	Joseph Staniak	DO SOC		

13.	Group	Greg Campoli	ISO/RTO Council Standards Review Committee		X								

	Additional Member	Additional Organization	Region	Segment Selection
1.	Matt Goldberg	ISO-NE	NPCC	2
2.	Ali Miremadi	CAISO	WECC	2
3.	Terry Bilke	MISO	MRO	2
4.	Charles Yeung	SPP	SPP	2
5.	Al DiCaprio	PJM	RFC	2
6.	Cheryl Moseley	ERCOT	ERCOT	2
7.	Ben Li	IESO	NPCC	2

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

	Additional Member	Additional Organization	Region	Segment Selection
1.	Charles Sweeney	Transmission Sales	WECC	1

15.	Individual	Andrew Z. Pusztai	American Transmission Company, LLC	X									
16.	Individual	Tammy Porter	Oncor Electric Delivery	X		X							

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
17.	Individual	David Thorne	Pepco Holdings, Inc.	X		X							
18.	Individual	Leonard Kula	Independent Electricity System Operator		X								
19.	Individual	Don Schmit	Nebraska Public Power District	X		X		X					
20.	Individual	Ayesha Sabouba	Hydro One			X							
21.	Individual	Joshua Andersen	Salt River Project	X		X		X	X				
22.	Individual	Anthony Jablonski	ReliabilityFirst Corp.										X
23.	Individual	Thomas Foltz	American Electric Power	X		X		X	X				
24.	Individual	Robert Coughlin	ISO New England, Inc.		X								
25.	Individual	Chris Scanlon	Exelon Corp.	X		X	X	X	X				
26.	Individual	Bob Thomas	Illinois Municipal Electric Agency				X						
27.	Individual	RoLynda Shumpert	South Carolina Electric and Gas	X		X		X	X				
28.	Individual	David Ramkalawan	OPG					X					
29.	Individual	Catherine Wesley	PJM Interconnection		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).

Organization	Agree	Supporting Comments of "Entity Name"
Hydro One	Agree	NPCC-RSC
Illinois Municipal Electric Agency	Agree	Florida Municipal Power Agency

1. **The FYRT recommended Requirement R5 be revised for consistency with R4 and to clarify that nuclear plants must be operated to meet the Nuclear Plant Interface Requirements, and the Project 2012-03 drafting team has implemented this recommendation. Do you agree or disagree with this requirement? If you disagree, please provide an alternative solution.**

Summary Consideration: The NUC SDT appreciates all the stakeholders who submitted comments in response to Question 1. In response to the comments, the NUC SDT added Real-time Operations to the Time Horizon for Requirement R5 and un-capitalized the term "nuclear power plant" as it is not a NERC defined term. Some commenters suggested that the wording in Requirements R4 and R5 should be reverted back to the previous version. However, the NUC SDT chose not to make those changes. This is because the NUC SDT asserts that Nuclear Plant Generator Operators should operate to meet NPIRs and not the Agreements themselves.

See individual responses below.

Organization	Yes or No	Question 1 Comment
Nebraska Public Power District	No	We recommend that R5 revert back to version 2 wording as follows: "R5 - The Nuclear Plant Generator Operator shall operate per the Agreements developed in accordance with this standard."(The reason for reversion back to the version 2 R5 is identified in our comments in #4 below.) **The SDT believes Requirement R5 should be consistent with Requirement R4 in requiring the Nuclear Power Plant to operate to the NPIRs as required of the Transmission Entities in R4.** We would also recommend that the Time Horizon change for R5 to match R4 [Operations Planning and Real-time Operations]. **The SDT agrees and will make this change in the draft standard.** Since Q4 from the draft comment form does not show up on this Official comment site we are including Q4 (any other comments) here: The Glossary of Terms for the definition of NPIRs [Nuclear Plant Interface Requirements] needs revision (along with our other Standard revisions

Organization	Yes or No	Question 1 Comment
		noted in comments above) in order for version 3 of NUC-001 to capture the requirements put upon the Nuclear Plant Operator for operation of the nuclear plant; and the requirements placed upon the Nuclear Plant Operator and the Transmission Entity for interface requirements between the two based upon the NPLR's. NPLR's or Nuclear Plant Licensing Requirements are the license requirements that the Nuclear Plant Operator must operate to [the Nuclear Plant Operator does not operate to the NPIR's as suggested under R5]. The NPIR's are indeed the mutually agreed upon requirements between the Nuclear Plant Operator and the Transmission Entity that are based upon the NPLR's. The NPIR's are not Bulk Electric System (BES) requirements "mutually" agreed upon between the Nuclear Plant Operator and the Transmission Entity as suggested by the current definition of NPIR. BES requirements are applicable to the Nuclear Plant Operator as a Generator Owner under other NERC Standards and Requirements and are not "mutually agreeable" between the two entities. In alignment with the stated Purpose of this Standard, NPPD suggests that the definition of NPIR be changed to "The requirements based on NPLR's that have been mutually agreed to by the Nuclear Plant Operator and the applicable Transmission Entities to ensure nuclear plant safe operation and shutdown". Please note that the definition of NPLR (as referenced in the NPIR proposed definition) already has the applicable parameters [plant design basis and statutorily mandated for operation; and including off-site power supply and avoiding preventable challenges to nuclear safety as a result of electric system disturbance, transient, or condition].When the NPIR's are agreed upon between the Nuclear Plant Operator and the Transmission Entity then they both operate to the Agreements between the two. R4 is correct in stating that the Transmission Entity application shall be "per the Agreement". Likewise R5 should require the Nuclear Plant Operator to follow the Agreements as agreed to (see comment changes in

Organization	Yes or No	Question 1 Comment
		#1 above) for R5; which we state that R5 should revert back to version 2 language. **The NUC-001 SDT recognizes that the content of the NPIRs will vary among nuclear plants and their interfacing transmission entities due to differing licensing requirements and equipment configurations. The SDT is not of the opinion that the addition of the proposed "second sentence" would add clarity to avoid inappropriate identification of NPIRs. The SDT understands the concern with regard to inclusion of actions to address and implement a NPIR in addition to the NPIR itself, however, in some cases it may not be possible to separate the two, and this issue is best left to the nuclear plant and the associated transmission entities to resolve as part of the process of attaining the mutually agreed upon NPIRs. The proposed "second sentence" appropriately includes the terms "…configuration control or administrative tasks," in an attempt to encompass requirements that are more than simply numeric, however, this points out the difficultly in refining the definition. The SDT believes the NPIR definition is acceptable as currently written and does not believe the "second sentence" will provide the desired clarity.**
ReliabilityFirst	No	ReliabilityFirst submits the following comments for consideration (question 4 was missing from the online form so we submitted it here): Requirement R7 and R8 - Without the terms "nuclear plant design" or "electric system design" being defined in the standard, ReliabilityFirst believes the original intent of requiring the entity to inform the Transmission Entities of changes to the Protection System may be getting lost. The original standard required information regarding changes to Protection Systems and ReliabilityFirst requests the justification for no longer requiring elements such as Protective relays, communications systems, voltage and current

Organization	Yes or No	Question 1 Comment
		sensing devices, station dc supply and control circuitry be included as being reportable to the Transmission Entities in the standard. **The SDT believes the revision to R7 and R8 are consistent with the original intent of the NUC-001-1 authors. The SDT deleted "Protection Systems" in Requirements R7 and R8 since it is a subset of "nuclear plant design" and "electric system design," and because the SDT did not want to limit itself to the NERC defined definition of Protection Systems. The use of "e.g. protective relay setpoints," provides for a more inclusive requirement that encompasses elements such as protective relays without creating an exhaustive list of all possible elements within the requirement. Additionally, the requirement contains the language, "that may impact the ability of electric system (or Transmission Entities) to meet the NPIRs," which is designed to capture any element that could interfere with the ability to meet NPIRs.**
Northeast Power Coordinating Council	Yes	
Florida Power & Light	Yes	
Arizona Public Service Company	Yes	
FirstEnergy Corp	Yes	
Dominion	Yes	Dominion agrees with the changes to R5, but suggests M5 be updated; where 'Nuclear Power Plant' is used, change this to 'nuclear power plant' (lower case), as this is not a defined term. Also in section D - Regional Variances - Nuclear Power Plant is also capitalized here and it should not be capatilized and suggest changing this to 'nuclear power plant'.

Organization	Yes or No	Question 1 Comment
		The drafting team agrees with this comment and will make the change.
SERC OC Review Group	Yes	The SERC OC Review Group recommends that M5 be updated to use the term “nuclear power plant” (without capitalization) instead of “Nuclear Power Plant” as this is not a defined term. Current M5 language: The Nuclear Plant Generator Operator shall, upon request of the Compliance Enforcement Authority, demonstrate or provide evidence that the Nuclear Power Plant is being operated consistent with the NPIRs. Proposed M5 language: The Nuclear Plant Generator Operator shall, upon request of the Compliance Enforcement Authority, demonstrate or provide evidence that the nuclear power plant is being operated consistent with the NPIRs. If this change is acceptable then R1 VSL Severe is recommended for modification for consistency. Current R1 VSL Severe language: The Nuclear Plant Generator Operator did not provide the proposed NPIR's to more than two of applicable entities. OR For a particular Nuclear Power Plant, if the number of possible applicable transmission entities is equal to the number of applicable transmission entities not provided NPIRs Proposed R1 VSL Severe language: The Nuclear Plant Generator Operator did not provide the proposed NPIR's to more than two of applicable entities. OR For a particular nuclear power plant, if the number of possible

Organization	Yes or No	Question 1 Comment
		applicable transmission entities is equal to the number of applicable transmission entities not provided NPIRs **The drafting team agrees with this comment and will make the change.**
Florida Municipal Power Agency	Yes	
Southern Company: Southern Company Services,Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power COmpany; Southern Company Generation; Southern Company Generation and Energy Marketing	Yes	
Tennessee Valley Authority	Yes	Recommend to follow the SERC OC comment that M5 be updated to use the term “nuclear power plant” (without capitalization) instead of “Nuclear Power Plant” as this is not a defined term. Current M5 language: The Nuclear Plant Generator Operator shall, upon request of the Compliance Enforcement Authority, demonstrate or provide evidence that the Nuclear Power Plant is being operated consistent with the NPIRs. Proposed M5 language: The Nuclear Plant Generator Operator shall, upon request of the Compliance Enforcement Authority, demonstrate or provide evidence that the nuclear power plant is being operated consistent with the NPIRs. If this change is acceptable then R1 VSL Severe is recommended for modification for consistency. Current R1 VSL Severe language: The Nuclear Plant Generator Operator did not provide the proposed NPIR's to more than two of applicable entities. OR For a particular Nuclear Power Plant, if the number of possible applicable transmission entities is equal to the number

Organization	Yes or No	Question 1 Comment
		of applicable transmission entities not provided NPIRsProposed R1 VSL Severe language: The Nuclear Plant Generator Operator did not provide the proposed NPIR's to more than two of applicable entities. OR For a particular nuclear power plant, if the number of possible applicable transmission entities is equal to the number of applicable transmission entities not provided NPIRs **The drafting team agrees with this comment and will make the change.**
ACES Standards Collaborators	Yes	We commend the NUC Five-Year Review Team for this recommendation and the SDT with its implementation to revise R5 and make it consistent with R4. Following this revision, Nuclear Plant Generator Operators will be obligated to operate their nuclear plants in a manner to meet the NPIRs, which will address possible reliability concerns that result when operations are outside of these requirements.
Duke Energy	Yes	Duke Energy agrees with the revisions made by the SDT.
DTE Electric	Yes	
ISO/RTO Council Standards Review Committee	Yes	
Bonneville Power Administration	Yes	BPA concurs the NPIRS should drive the interface requirements; however NPIRS must be concurred between transmission provider and nuclear plant prior to inclusion in an Interface Agreement.

Organization	Yes or No	Question 1 Comment
		The SDT believes that NPIRs need to be agreed to by the Nuclear Plant Generator Operator and all Transmission Entities.
American Transmission Company, LLC	Yes	Agree.
Oncor Electric Delivery	Yes	
Pepco Holdings Inc.	Yes	
Independent Electricity System Operator	Yes	
Salt River Project	Yes	
American Electric Power	Yes	
Exelon Corporation	Yes	
South Carolina Electric and Gas	Yes	
OPG	Yes	
PJM Interconnection	Yes	

2. The FYRT recommended that R9 be revised to clarify that all agreements do not have to discuss each of the elements in R9, but that the sum total of the agreements need to address the elements, and the Project 2012-03 drafting team has implemented this recommendation. Do you agree or disagree with this requirement? If you disagree, please provide an alternative solution.

Summary Consideration: The NUC SDT thanks all stakeholders who provided comments in response to Question 2. While one entity felt that the language within Requirement R9 was too ambiguous, the NUC SDT chose to keep the language in Requirement R9 the same because it felt the Requirement was sufficiently clear. See individual responses below.

Organization	Yes or No	Question 2 Comment
ReliabilityFirst	No	ReliabilityFirst submits the following comments for consideration: Requirement R9 - Even though the intent of Requirement R9 is understood, ReliabilityFirst believes it can be stated in a more clear and concise manner. ReliabilityFirst recommends the following for consideration: "The Nuclear Plant Generator Operator and the applicable Transmission Entities shall include the following elements in aggregate within the Agreement(s) identified in R2. Regardless if there are single or multiple Agreements with single or multiple Transmission Entities, all elements under Requirement R9 need to be addressed, in aggregate, within the Agreement(s)" **The SDT reviewed and discussed the above language, however, ultimately the drafting team agreed the current language is sufficiently clear and not ambiguous.**
Northeast Power Coordinating Council	Yes	
Florida Power & Light	Yes	
Arizona Public Service Company	Yes	

Organization	Yes or No	Question 2 Comment
FirstEnergy Corp	Yes	ADDITIONAL COMMENTS: FirstEnergy acknowledges that Part 9.1 was retired under the Paragraph 81 project. We also agree with not renumbering Requirement parts that would impact existing agreements throughout the industry. However, we strongly suggest that Part 9.1 be marked Retired instead of being left blank as this could lead to future confusion. Our concern is that someone not aware of the history of NUC-001 may do unnecessary research to understand why Part 9.1 is blank. Stating "Retired" will provide clarity and eliminate the possibility of any confusion. **Requirement R9.1 will continue to state that the sub-part is "Retired" as it currently is in the draft standard. It will not be left blank to avoid confusion.**
Dominion	Yes	
SERC OC Review Group	Yes	
Florida Municipal Power Agency	Yes	
Southern Company: Southern Company Services,Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power COmpany; Southern Company Generation; Southern Company Generation and Energy Marketing	Yes	

Organization	Yes or No	Question 2 Comment
Tennessee Valley Authority	Yes	
ACES Standards Collaborators	Yes	We commend the NUC Five-Year Review Team for this recommendation and the SDT with its implementation to revise R9. This clarification allows entities to address the elements of Requirement R9 across several agreements and not limit them to just one. **The SDT thanks you for your comment.**
Duke Energy	Yes	Duke Energy agrees with the revisions made by the SDT.
DTE Electric	Yes	
ISO/RTO Council Standards Review Committee	Yes	
Bonneville Power Administration	Yes	
American Transmission Company, LLC	Yes	Agree
Oncor Electric Delivery	Yes	
Pepco Holdings Inc.	Yes	
Independent Electricity System Operator	Yes	
Nebraska Public Power District	Yes	

Organization	Yes or No	Question 2 Comment
Salt River Project	Yes	
American Electric Power	Yes	
Exelon Corporation	Yes	
South Carolina Electric and Gas	Yes	
OPG	Yes	
PJM Interconnection	Yes	

3. Do you agree with the VRFs and VSLs for Requirements R5 and R9? If not, please explain.

Summary Consideration: The NUC SDT appreciates all the stakeholders who submitted comments in response to Question 3. In response to the comments that were submitted, the NUC SDT made minor grammar changes including changing "NPIR's" to "NPIRs" and updating the Data Retention section. Some commenters felt that the High VSL for Requirement R6 should be changed to Severe, however the NUC SDT chose not to change the VSLs because of the high number of maintenance activities that occur between a Transmission Entity and a Nuclear Plant Generator Operator. Additionally, other commenters suggested minor language revisions, which the NUC SDT ultimately chose not to adopt because the Team felt the requirements were sufficiently clear. See individual responses below.

Organization	Yes or No	Question 3 Comment
Dominion	No	Dominion does not see how the VSLs in R6 can have N/A under Severe. According to the last sentence on page 2 of the VSL guideline and combine that with the chart at the top of the page, it seems that failure to coordinate one or more outages or maintenance activities which affect the NPIRs, indicates that the entity failed to meet the performance of the requirement. Therefore Dominion suggests that the VSL currently marked High be changed to Severe. **The SDT has considered this comment; however, given the number of maintenance activities that need to be scheduled between a Nuclear Plant Generator Operator and Transmission Entities, failure to coordinate one or several would not constitute a Severe Violation, and the SDT believes the High severity level is appropriate. Entities that would continue to violate this requirement would be subject to penalties associated with repeat occurrences.** Question 4 Comments: 1. The impact identified in Requirement R8 does not match the impact identified in Measure M8. Specifically, R8 "impact the ability of the electric system to meet the NPIRs" while M8 "impact the ability of the Nuclear Plant Generator Operator to meet the NPIRs." Dominion believes the language in M8 is correct and suggest revising R8 accordingly.

Organization	Yes or No	Question 3 Comment
		The SDT believes that this language should be consistent and will revise Measure M8 to be consistent with the language in Requirement R8. 2. The Data Retention section addresses Measure M4.3 but does not address M4.1 or M4.2.3. **The SDT agrees with this comment and has made this change.** Requirements R7 and R8 uses the term 'may impact the ability of the electric system' and the M7 and M8 uses the term 'would impact the ability of the electric system'. Dominion suggests that the SDT replace 'may' with 'will' in requirements R7 and R8, or delete both "may" and "would" and simply use present tense "impact' in the Requirements and past tense "impacted" in the Measures. **The SDT agrees with this comment and will make this change.**
SERC OC Review Group	No	The SERC OC Review Team requests clarification as to why the SDT chose to use the "high" VSL category and not the "severe" VSL category. Using the VSL guideline (page 2 last sentence) it appears that failure to coordinate one or more outages or maintenance activities which affect the NPIRs indicates that the entity failed to meet the performance of the requirement. Thus, it may be appropriate that the "severe" VSL should be utilized. **The SDT has considered this comment; however, given the number of maintenance activities that need to be scheduled between a Nuclear Plant Generator Operator and Transmission Entities, failure to coordinate one or several would not constitute**

Organization	Yes or No	Question 3 Comment
		a Severe Violation, and the SDT believes the High severity level is appropriate. Entities that would continue to violate this requirement would be subject to penalties associated with repeat occurrences. Software did not allow access to Question 4. Please see additional comments below. The SERC OC Review Team respectfully requests clarification on the use of "may" vs. "would" in R7 and M7. The same clarification is requested for R8 and M7. The concern is the interpretation that is used for "may" and "would". An example is included below: R7. Per the Agreements developed in accordance with this standard, the Nuclear Plant Generator Operator shall inform the applicable Transmission Entities of actual or proposed changes to nuclear plant design (e.g., protective relay setpoints), configuration, operations, limits, or capabilities that may impact the ability of the electric system to meet the NPIRs. [Violation Risk Factor: High] [Time Horizon: Long-term Planning]M7. The Nuclear Plant Generator Operator shall provide evidence that it informed the applicable Transmission Entities of changes to nuclear plant design (e.g., protective relay setpoints), configuration, operations, limits, or capabilities that would impact the ability of the Transmission Entities to meet the NPIRs. **The SDT agrees with this comment and will make this change.** Data Retention: The SERC OC Review Group noticed that M4.1 and M4.2 are not included in the Data Retention section. It is requested that the SDT review and evaluate whether or not M4.1 and M4.2 should be included in the Data Retention section. The comments expressed herein represent a consensus of the views of the above named members of the SERC OC Review Group only and should not be construed as the position of the SERC Reliability Corporation, or its board or its officers. **The SDT agrees with this comment and will make this change.**

Organization	Yes or No	Question 3 Comment
ACES Standards Collaborators	No	We believe the VRFs identified for requirements R5 and R9 are appropriate for their level of impact to the BES. However, we do have concerns regards the VSLs for these requirements. The VSL for Requirement R5 is binary in nature and should be modified to a graduated severity level. We feel that weighing each NPIR equally does not identify the significance of some NPIRs, such as power supply restoration times and safety. We also find the percentage approach taken for R9 confusing and that the previous approach identifying a specific number of elements easier. **The SDT has reviewed this comment, but contends that there are very few NPIRs that require Nuclear Plant Generator Operator action, therefore, the SDT chose to maintain this Requirement as binary. A graded approach with such a few number of required actions would not be plausible.** **The SDT believes the approach of using percentages in Requirement R9 is the most workable solution to developing the VSLs, and that attempting to weigh them in accordance with specific elements of the Agreements would be extremely difficult.**
Nebraska Public Power District	No	Change the VSL for R5 based on our comments in #1 and #4. **The SDT believes Requirement R5 should be consistent with Requirement R4 in requiring the Nuclear Power Plant to operate to the NPIRs as required of the Transmission Entities in R4.** Change the reference to “NPIRs” in this VSL to “Agreement’s”.R9 VSL’s: Please revert back to version 2 VSL’s for R9. A percentage basis as used in version 3 will lead to improper application by regulators. Version 2 is a much cleaner approach.

Organization	Yes or No	Question 3 Comment
		The SDT believes the approach of using percentages in Requirement R9 is the most workable solution to developing the VSLs, and that attempting to weigh them in accordance with specific elements of the Agreements would be extremely difficult.
ReliabilityFirst	No	ReliabilityFirst submits the following comments for consideration:VSL for Requirement R4 - For consistency, all VSLs under Requirement R4 should reference "sub-parts" and not "sub-requirements". **The SDT agrees with this comment and will make changes where needed.** VSL for Requirement R6 - For consistency with the language in Requirement R6, the Moderate VSL should reference "maintenance activities" and not "maintenance schedules". **The SDT has reviewed this comment, but asserts that the current language is correct. The intent of Requirement R6 is to ensure applicable Transmission Entities and Nuclear Plant Generator Operators coordinate outages and maintenance activities. The moderate VSL for Requirement R6 is designed to penalize entities that fail to give their respective Transmission or Nuclear Plant Generator Operator advanced notice, via a schedule, of planned outages or maintenance activities that have not yet occurred. The High VSL represents a more significant violation of this requirement as it is applied to entities who initiate a maintenance or outage activity without coordinating this activity with their respective Transmission Entities or Nuclear Plant Generator Operator.**
American Electric Power	No	The correct pluralization of NPIR is "NPIRs", without an apostrophe. There are a number of instances in the VSL table where an apostrophe is incorrectly used. **The SDT agrees with this comment and will make changes where needed.**

Organization	Yes or No	Question 3 Comment
Northeast Power Coordinating Council	Yes	
Florida Power & Light	Yes	
Arizona Public Service Company	Yes	
FirstEnergy Corp	Yes	
Florida Municipal Power Agency	Yes	
Southern Company: Southern Company Services,Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power COmpany; Southern Company Generation; Southern Company Generation and Energy Marketing	Yes	
Tennessee Valley Authority	Yes	
Duke Energy	Yes	
DTE Electric	Yes	There is a question as to why R5's VRF and VSL are called out. The VRF remains at High and the VSL is High for the NPGOP to operate to the NPIRs.

Organization	Yes or No	Question 3 Comment
		The SDT has reviewed this comment and determined that the only change made to Requirement R5 was to replace "Agreements" with "NPIRs."
ISO/RTO Council Standards Review Committee	Yes	
Bonneville Power Administration	Yes	
American Transmission Company, LLC	Yes	
Oncor Electric Delivery	Yes	
Pepco Holdings Inc.	Yes	
Independent Electricity System Operator	Yes	Question 4: Additional Comments Provided. R3 as written has a very broad scope and mandate for the Transmission Entities as it implies that the Transmission Entities need to communication the results of all planning analyses that have NPIRs incorporated, either as assumption or in the model, to the Nuclear Plant Generator Operator (NPGO), regardless of the potential impacts on the NPGO. This is unnecessary, and the amount of information provided to the NPGO can be overwhelming. We suggest revising R3 as follows: R3. Per the Agreements developed in accordance with this standard, the applicable Transmission Entities shall incorporate the NPIRs into their planning analyses of the electric system and shall communicate the analysis results to those Nuclear Plant Generator Operators that may be affected by such results.

Organization	Yes or No	Question 3 Comment
		With the proposed revision, the Transmission Entities do not have to communicate the results of all analyses that have NPIRs incorporated, and the NPGO will not be inundate by analysis results that do not affect them. **The SDT has reviewed the requested revision, but asserts per Requirement R 9.2.3 that the Agreement between the Transmission Entity and the Nuclear Plant Generator Operator will define what type of planning information needs to be provided to Nuclear Plant Generator Operator.** Real-time Operations should be added to the Time Horizon for R5 so as to be consistent with those stipulated for R4 (which is applicable to the Transmission Entities).c. **The SDT agrees with this comment and will make the change.** The MEDIUM VRF for R1 stipulated in the VSL should be LOWER, not MEDIUM as it is inconsistent with the LOWER VRF stipulated in the requirement itself. **The VRF for Requirement R1 was corrected to Medium for consistency. The intent of the SDT was for the VRF for Requirement R1 to be Medium.**
Salt River Project	Yes	
Exelon Corporation	Yes	
South Carolina Electric and Gas	Yes	

Organization	Yes or No	Question 3 Comment
OPG	Yes	
PJM Interconnection	Yes	

4. Do you have any additional comments? Please provide them here.

Summary Consideration: The NUC SDT appreciates all the stakeholders who submitted comments in response to Question 4. Some commenters felt that Load Serving Entities should not be an applicable entity in this standard and that the elements within Requirement R9 should be modified. The NUC SDT considered these comments but asserts that LSEs should be a part of this standard as they have a unique relationship with Nuclear Plant Generator Operators. Additionally, the NUC SDT believes the language in Requirement R9 encompasses all of the critical elements that need to be in the Agreements, while also not being overly prescriptive. See individual responses below.

Organization	Yes or No	Question 4 Comment
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	No	
Duke Energy	No	
DTE Electric	No	
Bonneville Power Administration	No	
Exelon Corporation	No	

Organization	Yes or No	Question 4 Comment
South Carolina Electric and Gas	No	
Northeast Power Coordinating Council	Yes	Real-time Operations should be added to the Time Horizon for R5 so as to be consistent with those stipulated for R4 (which is applicable to the Transmission Entities). **The SDT agrees and will make this change.** In Section D. Regional Variances, add the words “and nuclear plant safe operation” as follows: Canadian Nuclear Plant Licensing Requirements (CNPLR) are requirements included in the design basis of the nuclear plant and are statutorily mandated for the operation of the plant; when used in this standard, NPLR shall mean nuclear power plant licensing requirements for avoiding preventable challenges to nuclear safety and nuclear plant safe operation as a result of an electric system disturbance, transient, or condition. **The SDT believes the revised wording is consistent with the licensing requirement for the Canadian Nuclear Plants. See reference to OPG comment above.**
Florida Municipal Power Agency	Yes	FMPA suggests that Applicability Section 4.2.9 Load Serving Entity should be removed from the list. FERC's 2008-10-16 Order 716 which approved NUC-001-1 acknowledged "there is a significant amount of overlap among the entities that perform these functions." FMPA believes that Load-Serving Entities do not perform any unique reliability tasks necessary during coordination with Nuclear Plant Generator Operators, and that all such necessary reliability tasks are already being performed by the other applicable functional entities of NUC-001-2.1. Thus, Project 2012-13 provides a good

Organization	Yes or No	Question 4 Comment
		opportunity to delete the redundant Load-Serving Entities function from this Standard. **The SDT asserts that LSEs need to be an applicable entity to this standard because when nuclear plants are off-line (planned or unplanned) electric power is supplied to a nuclear plant by an entity that may include a Load Serving Entity (LSE). During instances where an LSE is providing such services, they may be providing a NPIR related function to a nuclear plant. Therefore, SDT decided not to remove LSE's from the applicability section.**
Tennessee Valley Authority	Yes	Recommend to follow the SERC OC comments following: The SERC OC Review Team respectfully requests clarification on the use of "may" vs. "would" in R7 and M7. The same clarification is requested for R8 and M7. The concern is the interpretation that is used for "may" and "would". An example is included below: R7. Per the Agreements developed in accordance with this standard, the Nuclear Plant Generator Operator shall inform the applicable Transmission Entities of actual or proposed changes to nuclear plant design (e.g., protective relay setpoints), configuration, operations, limits, or capabilities that may impact the ability of the electric system to meet the NPIRs. [Violation Risk Factor: High] [Time Horizon: Long-term Planning] M7. The Nuclear Plant Generator Operator shall provide evidence that it informed the applicable Transmission Entities of changes to nuclear plant design (e.g., protective relay setpoints), configuration, operations, limits, or capabilities that would impact the ability of the Transmission Entities to meet the NPIRs. Data Retention: The SERC OC Review Group noticed that M4.1 and M4.2 are not included in the Data Retention section. It is requested that the SDT review and evaluate whether or not M4.1 and M4.2 should be included in the Data Retention section. **Please see response to SERC OC.**

Organization	Yes or No	Question 4 Comment
ACES Standards Collaborators	Yes	(1) We appreciate the SDT with their efforts to incorporate the various recommendations from the NUC Five-Year Review Team in this revision of NERC Standard NUC-001. In particular, we welcome the clarification in Requirement R5 regarding nuclear plant operations meeting the NPIRs. We also welcome the omission of the NERC Glossary Term "Protection Systems" from requirements R7 and R8 to better identify the intent of those requirements. Finally, we welcome the administrative details taken to identify appropriate timing horizons, clarify measures, and modify the VSLs and VRFs.(2) However, we feel that further revision is still needed. We feel a communication gap exists when Nuclear Plant Generator Operators neglect to communicate with Transmission Entities when Nuclear Plant Generator Operators lose the ability to assess the operation of their plants and ability to meet the NPIRs. We believe addressing this gap will be a step towards situational awareness for all affected Parties involved.â€ƒ(3) **The SDT has reviewed this comment and asserts that Nuclear Plants Generator Operator capability to assess operation of the nuclear plant is governed by applicable nuclear regulations and the SDT cannot draw a parallel to Requirement R4.3.** We feel the number of elements listed under Requirement R9 should be limited to those elements affecting the NPIRs. For example, Requirement R9.3.3 identifies a need for coordination of testing, calibration, and maintenance of power supplies within the aggregated agreements. While we agree with the importance of testing, calibrating, and maintaining power supplies, we believe such activities are already addressed by the owner of such facilities through other NERC Standards. Likewise, Requirement R9.3.6 identifies the coordination of physical and cyber security protection of assets near the nuclear plant interface. While we agree with the importance of physical and cyber security protection, we believe such activities are already addressed with existing NERC Critical Infrastructure Protection requirements.

Organization	Yes or No	Question 4 Comment
		Moreover, these activities will be further enhanced with Revision 5 of these NERC Critical Infrastructure Protection standards. **The SDT has reviewed these comments, and the elements in Requirement R9, and believes those elements are necessary to bring the desired interface between the Transmission Entities and the Nuclear Plant Generator to achieve the stated purpose of the standard.** (4) Finally, we thank you for the opportunity to comment.
ISO/RTO Council Standards Review Committee	Yes	a. Measure M2 is unclear: M2. The Nuclear Plant Generator Operator and each Transmission Entity shall each have a copy of the Agreement(s) [addressing and implementing the NPIRs] available for inspection upon request of the Compliance Enforcement Authority. The Agreement doesn't "address and implement" the NPIRs - it describes how the entities address and implement them. The measure should simply state that the responsible entity has a copy of the agreement - i.e. we suggest to delete the language in [bracket]. **In response to this comment, the SDT has made changes to the language in M2 to improve the clarity of the measure.** b. R3 as written has a very broad scope and mandate for the Transmission Entities as it implies that the Transmission Entities need to communicate the results of all planning analyses that have NPIRs incorporated, either as an assumption or in the model, to the Nuclear Plant Generator Operator (NPGO) regardless of the potential impacts on the NPGO. This is unnecessary, and the amount of information provided to the NPGO can be overwhelming. We suggest revising R3 as follows: R3. Per the Agreements developed in accordance with this standard, the applicable Transmission Entities shall incorporate the NPIRs into their planning analyses of the electric system and shall communicate those analysis results that affect the relevant Nuclear Plant Generator Operators that may be affected by such results. With the proposed revision, there will not be a suggestion that Transmission Entities have to

Organization	Yes or No	Question 4 Comment
		communicate the results of all analyses that have NPIRs incorporated, and the NPGO will not be inundated by analysis results that do not affect them. **The SDT has reviewed the requested revision, but asserts per Requirement R 9.2.3, that the Agreement between the Transmission Entity and the Nuclear Plant Generator Operator will define what type of planning information needs to be provided to Nuclear Plant Generator Operator.** c. Requirement R4: There appears to be an inconsistency between R4 and Measure M4 which has created some confusion in assessing compliance. It is our understanding that most Agreements between Nuclear Plant Generator Operators and Transmission Entities include specific tasks/actions that both parties need to perform. Hence, each Transmission Entity has specific tasks assigned but is not held responsible for all aspects of a plant's NPIRs or those performed by other Transmission Entities associated with that plant. To ensure the Transmission Entity is assessed only on its specific tasks per the Agreement, we suggest to deleted the word "current" from Measure M4.1, and add "per the Agreements" to Measures M4.2 and M4.3, as follows: M4. Each Transmission Entity responsible for operating the electric system in accordance with the Agreement shall demonstrate or provide evidence of the following, uponrequest of the Compliance Enforcement Authority: M4.1: The NPIRs have been incorporated into the current operating analysis of the electric system. (Requirement 4.1) requirement R4 does not specify "current", and one may not know what this means, which can be current as at the day of the audit. We suggest deleting the word "current". M4.2 The electric system was operated to meet the NPIRs per the agreements. (Requirement 4.2) M4.3 The Transmission Entity informed the Nuclear Plant Generator Operator when it became aware it lost the capability to assess the operation of the electric system affecting the NPIRs per the agreements.

Organization	Yes or No	Question 4 Comment
		The SDT asserts that the word 'current' in M4.1 is equivalent to 'latest.' It is implicit that any audit would be looking at the most recent operating analysis of the electrical system. As such, the SDT does not believe deleting the word 'current' from the measure will have any impact on the measure's purpose. d. Real-time Operations should be added to the Time Horizon for R5 so as to be consistent with those stipulated for R4 (which is applicable to the Transmission Entities). **The SDT agrees and will make this change.** e. Requirements R1, R2, R3, R7, R8, and R9 specify the Time Horizon as "Long-term Planning", which differs somewhat from the NERC Glossary defined term of "Long-Term Transmission Planning Horizon", which NERC defines as covering years 6 - 10 and beyond. We suggest adding "Near-Term Planning" to the Time Horizon, which NERC defines as covering years 1 - 5. With the Near-Term Planning and Long- Term Planning included in the Time Horizon, the one to ten year planning horizon would be covered. This is particularly relevant to Requirements R3 and R9 (i.e., R9.2.3) where they are specific to planning analyses. Similarly, it's relevant to Requirement R8, where the analysis to identify system changes to the electric system should include year's 1 - 5 in the planning horizon and planning analyses. **The NERC Time Horizons document, which has been approved by the Standards Committee, defines Long-term Planning as "a planning horizon of one year or longer." On the contrary, Long-Term Transmission Planning only refers to transmission planning, and is defined in the NERC Glossary of Terms as a "Transmission planning period that covers years six through ten…" Long-Term Transmission Planning is not a standard's time horizon and may only be used when specifically discussing planning periods for transmission.** f. The MEDIUM VRF for R1 stipulated in the VSL should be LOWER, not MEDIUM as it is inconsistent with the LOWER VRF stipulated in the requirement itself.

Organization	Yes or No	Question 4 Comment
		In the current version of the draft Standard that is posted, the VRF for listed in the Requirement and in the VRF/VSL table is medium. This matches the intent of the SDT which was to make the VRF for Requirement R1 medium.
ISO New England Inc.	Yes	ISO-NE suggests that the SDT clarify the definition of Nuclear Plant Interface Requirements (NPIRs). Adding a second sentence to the definition would help to avoid inappropriate identification of NPIRs. Nuclear Plant Interface Requirements (NPIRs)The requirements based on NPLRs and Bulk Electric System requirements that have been mutually agreed to by the Nuclear Plant Generator Operator and the applicable Transmission Entities. NPIRs reflect limits, parameters, equipment configuration control or administrative tasks associated with maintaining the NPLRs or BES requirements. Rationale: As currently defined, NPIRs are tied to both Nuclear Plant License Requirements (NPLRs) and Bulk Electric System (BES) requirements. NPLRs and BES requirements are each typically expressed as measurable values, specified facilities, or specified equipment configurations. NPLRs are defined by the Nuclear Regulatory Commission (NRC) through the 10 CFR Part 50 process (Domestic Licensing of "Production and Utilization Facilities"), which defines the requirements for the licensing of nuclear power plants in the United States. From these requirements, design basis scenarios are created to identify limits, parameters or configuration control (e.g., minimum number of lines to the station) that must be met to operate/maintain the plant within the license requirements. NPLRs could also include administrative tasks required by the NRC, also expressed in terms of a measurable value (e.g. certain studies must be reviewed on a prescribed timeframe). BES requirements are also typically expressed as values (e.g., transmission system limit). This clarification would help to avoid inappropriate identification of actions to address and implement a NPIR as a NPIR itself. Actions to address and implement a NPIR are required by NUC-001-3 R2, but those actions should not be identified as NPIRs themselves because they are not directly related to either licensing requirements or BES requirements.

Organization	Yes or No	Question 4 Comment
		The NUC-001 SDT recognizes that the content of the NPIRs will vary among nuclear plants and their interfacing transmission entities due to differing licensing requirements and equipment configurations. The SDT is not of the opinion that the addition of the proposed "second sentence" would add clarity to avoid inappropriate identification of NPIRs. The SDT understands the concern with regard to including actions to address and implement a NPIR in addition to the NPIR itself, however, in some cases it may not be possible to separate the two, and this issue is best left to the nuclear plant and the associated transmission entities to resolve as part of the process of attaining the mutually agreed upon NPIRs. The proposed "second sentence" appropriately includes the terms "…configuration control or administrative tasks" in an attempt to encompass requirements that are more than simply numeric, however, this points out the difficultly in refining the definition. The SDT believes the NPIR definition is acceptable as currently written and does not believe the "second sentence" will provide the desired clarity.
OPG	Yes	In section D. Regional Variances, OPG would like to add the words "and nuclear plant safe operation" as follows: Canadian Nuclear Plant Licensing Requirements (CNPLR) are requirements included in the design basis of the nuclear plant and are statutorily mandated for the operation of the plant; when used in this standard, NPLR shall mean nuclear power plant licensing requirements for avoiding preventable challenges to nuclear safety and nuclear plant safe operation as a result of an electric system disturbance, transient, or condition. **Per subsequent discussion by a SDT member who is associated with the entity that submitted this comment, the comment has been rescinded.**
PJM Interconnection	Yes	PJM has also signed onto the SRC's comments.

Organization	Yes or No	Question 4 Comment
		Please see the SDT's response to SRC's comments above.

END OF REPORT