NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments on Project 2009-02 — SAR for Real-time Reliability Monitoring and Analysis Capabilities

The Real-time Reliability Monitoring and Analysis Capabilities SAR Drafting Team (RTT SAR DT) thanks all commenters who submitted comments on the first draft SAR. The SAR was posted for a 30-day public comment period from June 10, 2009 through July 11, 2009. The stakeholders were asked to provide feedback on the documents through a special Electronic Comment Form. There were 42 sets of comments, including comments from more than 100 different people from over 60 companies representing 9 of the 10 Industry Segments as shown in the table on the following pages.

The SDT has made numerous changes to the content of the SAR in an attempt to provide clarity to the SDT's position. This SAR is not about the Real-time Tools Best Practices Task Force Report nor is it about tools in general. It is about capabilities that functional entities must have in order to do their appointed tasks. The SAR DT does not contemplate naming specific tools or in telling functional entities how to do their jobs; the SAR is about the performance and capability of any tools utilized in the process of doing that job. The changes to the SAR are designed to bring those points across. Indeed, the SAR has been re-named to avoid any confusion with tools.

Due to the number of comments received and the apparent confusion about the intent of the SAR, the SAR DT has revised the language of the SAR to provide clarity and is requesting a second posting of this SAR.

This report includes all comments, re-sorted to make them easier to interpret; stakeholders can go the following location where they can read the submitted comments on the original Comment Forms.

http://www.nerc.com/filez/standards/Project2009-02_Real_Time_Tools.html

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, Gerry Adamski, at 609-452-8060 or at gerry.adamski@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.[1]

[1] The appeals process is in the Reliability Standards Development Procedures: http://www.nerc.com/standards/newstandardsprocess.html.

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

		Commenter	Organization	Industry Segment									
				1	2	3	4	5	6	7	8	9	10
1.	Group	Jim Case, Chair of RTOSDT	NERC RTOSDT	X	X	X						X	

	Additional Member	Additional Organization	Region	Segment Selection
1.	Real Time Operations Standards Drafting Team	NERC	NA - Not Applicable	NA

2.	Group	Jalal Babik	Electric Market Policy			X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Louis Slade		SERC	6
2.	Mike Garton		NPCC	5
3.	Michael Gildea		RFC	3

3.	Group	Guy Zito	Northeast Power Coordinating Council										X

	Additional Member	Additional Organization	Region	Segment Selection
1.	Ralph Rufrano	New York Power Authority	NPCC	5
2.	Al Adamson	New York State Reliability Council	NPCC	10
3.	Gregory Campoli	New York Independent System Operator	NPCC	2

	Commenter	Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
4.	Roger Champagne	Hydro-Quebec TransEnergie	NPCC	2								
5.	Kurtis Chong	Independent Electricity System Operator	NPCC	2								
6.	Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1								
7.	Manuel Couto	National Grid	NPCC	1								
8.	Chris de Graffenried	Consolidated Edison Co. of New York, Inc.	NPCC	1								
9.	Mike Garton	Dominion Resources Services, Inc.	NPCC	5								
10.	Brian L. Gooder	Ontario Power Generation Incorporated	NPCC	5								
11.	David Kiguel	Hydro One Networks Inc.	NPCC	1								
12.	Michael R. Lombardi	Northeast Utilities	NPCC	1								
14.	Bruce Metruck	New York Power Authority	NPCC	6								
15.	Robert Pellegrini	The United Illuminating Company	NPCC	1								
16.	Michael Schiavone	National Grid	NPCC	1								
17.	Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3								
18.	Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10								
19.	Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10								
4.	Group	Kenneth D. Brown	Public Service Enterprise Group Companies		X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Clint Bogan	PSEG Fossil LLC	RFC	5
2.	Scott Slickers	PSEG Power NY LLC	NPCC	5
3.	Ken Petroff	PSEG Nuclear LLC	RFC	5
4.	Gary Grysko	Odessa Power Partners LLC	ERCOT	5
5.	James Hebson	PSEG Energy Resources & Trade LLC	RFC	6
6.	Jeffrey Mueller	PSE&G	RFC	1, 3

5.	Group	Jim Case	SERC OC Standards Review Group		X		X							

	Additional Member	Additional Organization	Region	Segment Selection
1.	Vinit Gupta	Entergy	SERC	1, 3
2.	Wayne Pourciau	Ga. Systems Operation Corp.	SERC	3

	Commenter	Organization			Industry Segment									
					1	2	3	4	5	6	7	8	9	10
3.	Robert Kingsmore	Duke Energy Carolinas	SERC	1, 3, 5										
4.	Larry Rodriquez	Entegra Power Group	SERC	5										
5.	Joel Wise	TVA	SERC	1, 3, 5, 9										
6.	Edd Forsythe	TVA	SERC	1, 3, 5, 9										
7.	Bob Dalrymple	TVA	SERC	1, 3, 5, 9										
8.	Eugene Warnecke	Ameren	SERC	1, 3, 5										
9.	Brad Young	E. ON US	SERC	1, 3, 5										
10.	Chad Randall	E. ON US	SERC											
11.	Alan Jones	Alcoa	SERC	1, 3, 5										
12.	Monroe Landrum	Southern	SERC	1, 3, 5										
13.	Raymond Vice	Southern	SERC	1, 3, 5										
14.	Jim Busbin	Southern	SERC	1, 3, 5										
15.	Hugh Francis	Southern	SERC	1, 3, 5										
16.	Tim LeJeune	La. Generating	SERC	1, 3, 5										
17.	John Rembold	Southern Illinois Power Cooperative	SERC	1, 3, 5										
18.	Fred Krebs	Calpine	SERC	5										
19.	Tony Halcomb	Cogentrix Energy	SERC	5										
20.	Robert Thomasson	Big Rivers Electric Coop.	SERC	1, 3, 5										
21.	Danny Dees	MEAG	SERC	1, 3, 5										
22.	Tim Hattaway	PowerSouth	SERC	1, 3, 5										
23.	Carter Edge	SERC	SERC	10										
24.	Wes Davis	SERC	SERC	10										
25.	John Troha	SERC	SERC	10										
6.	Group	Denise Koehn	Bonneville Power Administration		X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Greg Vassallo	Transmission Customer Service Engineering		1
2.	Jim Burns	Transmission Technical Operations		1

		Commenter	Organization	Industry Segment									
				1	2	3	4	5	6	7	8	9	10
7.	Group	Sam Ciccone	FirstEnergy	X		X	X	X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Doug Hohlbaugh	FE	RFC	4
2.	Dave Folk	FE	RFC	1, 3, 4, 5, 6
3.	John Reed	FE	RFC	1
4.	Andy Hunter	FE	RFC	1
5.	Rick Murphy	FE	RFC	1
6.	Larry Hartley	FE	RFC	3, 5

8.	Group	Carol Gerou	MRO NERC Standards Review Subcommittee										X

	Additional Member	Additional Organization	Region	Segment Selection
1.	Joe DePoorter	Madison Gas & Electric	MRO	3, 4, 5, 6
2.	Neal Balu	Wisconsin Public Service Corporation	MRO	3, 4, 5, 6
3.	Ken Goldsmith	Alliant Energy	MRO	4
4.	Jim Haigh	Western Area Power Administration	MRO	1, 6
5.	Terry Harbour	MidAmerican Energy Company	MRO	1, 3, 5, 6
6.	Joseph Knight	Great River Energy	MRO	1, 3, 5, 6
7.	Alice Murdock	Xcel Energy	MRO	1, 3, 5, 6
8.	Scott Nickels	Rochester Public Utilities	MRO	3, 4, 5, 6
9.	Dave Rudolph	Basin Electric Power Cooperative	MRO	1, 3, 5, 6
10.	Eric Ruskamp	Lincoln Electric System	MRO	1, 3, 5, 6

9.	Group	Ben Li	IRC Standards Review Committee		X								

	Additional Member	Additional Organization	Region	Segment Selection
1.	Patrick Brown	PJM	RFC	2
2.	Lourdes Estrada-Salinero	CAISO	WECC	2
3.	Matt Goldberg	ISO-NE	NPCC	2
4.	Steve Myers	ERCOT	ERCOT	2
5.	James Castles	NYISO	NPCC	2

		Commenter	Organization	Industry Segment									
				1	2	3	4	5	6	7	8	9	10
10.	Individual	Mike Davis	WECC Reliability Coordination										X
11.	Individual	Hugh Francis	Southern Company	X		X		X					
12.	Individual	Sandra Shaffer	PacifiCorp	X		X		X	X				
13.	Individual	Frank Gaffney	Florida Municipal Power Agency, and its All-Requirements Project Participants, Beaches Energy Services and New Smyrna Beach (FMPA)	X		X			X				
14.	Individual	Jason Shaver	American Transmission Company	X									
15.	Individual	Edward Stein	self								X		
16.	Individual	Scott Vidler	Hydro One	X		X							
17.	Individual	Alice Murdock	Xcel Energy	X		X		X	X				
18.	Individual	John Brockhan	CenterPoint Energy	X									
19.	Individual	James H. Sorrels, Jr.	American Electric Power	X		X		X	X				
20.	Individual	Alan Gale	City of Tallahassee (TAL)					X					
21.	Individual	Rao Somayajula	ReliabilityFirst Corporation										X
22.	Individual	Kasia Mihalchuk	Manitoba Hydro	X		X		X	X				
23.	Individual	Greg Rowland	Duke Energy	X		X		X	X				
24.	Individual	Jianmei Chai	Consumers Energy Company			X	X	X					
25.	Individual	Darryl Curtis	Oncor Electric Delivery	X									
26.	Individual	Scott Nied	Con Edison System Operation	X		X		X					

		Commenter	Organization	Industry Segment									
				1	2	3	4	5	6	7	8	9	10
27.	Individual	Edward Davis	Entergy Services	X		X		X	X				
28.	Individual	Chris Scanlon	Exelon; ComEd, PECO and Exelon Generation	X		X		X	X				
29.	Individual	Kirit Shah	Ameren	X		X		X	X				
30.	Individual	Brent Ingebrigtson	E. On U.S.	X		X		X	X				
31.	Individual	Thomas J Bradish	RRI Energy					X	X				
32.	Individual	Mark Thompson	Alberta Electric System Operator		X								
33.	Individual	Greg Mason	Dynegy					X					
34.	Individual	Kathleen Goodman	ISO New England Inc.		X								
35.	Individual	Julie Reichle	NorthWestern Energy	X									
36.	Individual	Brian Evans-Mongeon	Utility Services LLC								X		
37.	Individual	Randy MacDonald	New Brunswick System Operator		X								
38.	Individual	Derek Bleyle	South Carolina Electric and Gas	X		X		X	X				
39.	Individual	Catherine Koch	Pugets Sound Energy	X									
40.	Individual	Jason Marshall	Midwest ISO		X								
41.	Individual	Dan Rochester	Independent Electricity System Operator (IESO)		X								
42.	Individual	Michael Gammon	Kansas City Power & Light	X		X		X	X				

1. Do you agree that either there is a reliability-related need for the proposed standards action?

Summary Consideration: There were three main themes expressed in the comments: (1) certification vs. standards; (2) tools vs. functionality or 'what vs. 'how'; and (3) new standards vs. revision of existing standards.

1. Industry was divided on whether there was a reliability related need for the proposed standards action. Some commenters responded that they thought certification was a preferable approach versus standards. The SAR DT has discussed this at length and provided sound reasoning why certification may not be an acceptable solution as detailed in the individual responses below.
2. The SAR never cites a specific tool but focuses on the functionality required for Real-time monitoring and analysis. An entity could use any tool that it has at its disposal as long as it meets the functionality, performance, and management requirements to be determined by an eventual standard. The SAR explicitly focuses on 'what' and not 'how'.
3. The SAR has been expanded to allow the eventual SDT to make the decision as to whether to write new standards or revise existing standards.

The SAR is not the Real-time Tools Best Practices Task Force (RTBPTF) Report. Many of the recommendations of the RTBPTF Report were not included in the SAR. A study group handled the disposition of the recommendations in the RTBPTF Report and crafted the SAR to handle only those recommendations that were deemed appropriate for standards activity. The eventual SDT is not bound to replicate the recommendations of the RTBPTF; it will be bound by the language of the SAR.

Organization	Yes or No	Question 1 Comment
SERC OC Standards Review Group	No	See comments to Question 8.
E. On U.S.	No	See comments for Question 8
Entergy Services	No	Entergy supports the SERC OC comments.
Response: Please see response to question 8 comments.		
MRO NERC Standards Review Subcommittee	No	Based on the NERC BOT approval of PER-005-1, System Personnel Training, with a purpose of "To ensure that System Operators performing real-time, reliability-related tasks on the North American Bulk Electric System (BES) are competent to perform those reliability-related tasks. The competency of System Operators is critical to the reliability of the North American Bulk Electric System". The need for awareness as described by the RTBPTF in their 13 March 2008 report will be satisfied by RCs, TOPs, and BAs using a systematic approach to training to establish a training program for the BES company-specific reliability-related tasks performed by its System Operators. By using PER-005's systematic approach to training, the process of ensuring system operator training needs never stops. All tasks will be required to be evaluated.

Organization	Yes or No	Question 1 Comment
		In the detailed Description of the SAR it is proposed that Alarming, Telemetry and Network analysis is developed into a standard. These three functions are what system operators are already performing on a daily basis as described in the following Commission approved NERC Standards. IRO-002-1, R2 states, "Each RC shall determine the data requirements to support its reliability coordination tasks" "IRO-002-1, R5 states, "Each RC shall have detailed real " time monitoring capability"" IRO-002-1, R6 states, "Each RC shall monitor Bulk Electric System elements"" TOP-006-1, R1 states, "Each TOP, BA shall know the status of all generation and transmission resources available for use." TOP-006-1, R2 states, "Each RC, TOP, and BA shall monitor applicable transmission line status, real and reactive power flows, voltage, load tap changer settings, and status of rotating and static reactive resources". TOP-006-1, R4 states, "Each RC, TOP, and BA shall have information, including weather forecasts and past load patters, available to predict the system's near tern load pattern". TOP-006-1, R5 states, "Each RC, TOP, and BA shall use monitoring equipment to bring to the attention of operating personnel important deviations in operating conditions and to indicate, if appropriate, the need for corrective action". TOP-008-1, R2 states, "Each TOP shall operate to prevent the likelihood that a disturbance, action, or inaction will result in an IROL or SOL violation"". TOP-008-1, R4 states, The TOP shall have sufficient information and analysis tools to determine the cause(s) of SOL violations".
Response: The SDT does not see where the first paragraph contains any relevance to this SAR. An entity could have a training program but you could be missing essential functions. The SAR doesn't mention training. The standards cited in paragraph 2 are being revised and many of the requirements cited are suggested for retirement with the understanding that this project (Project 2009-02) will take on that responsibility.		
IRC Standards Review Committee	No	The specific tools used in Operations must be designed for and by the entity using those tools to meet NERC standards. NERC standards define the system performance expected of the entity. The standards should NOT also impose constraints on the tools and the characteristics and performance requirements of those tools that are used by the entity to meet the expected system performance.
ISO New England Inc.	No	The specific tools used in Operations must be designed for and by the entity using those tools to meet NERC standards. NERC standards define the system performance expected of the entity. The standards should NOT also impose constraints on the tools and the characteristics and performance requirements of those tools that are used by the entity to meet the

Organization	Yes or No	Question 1 Comment
		expected system performance.
IESO	No	Tools used in Operations should be designed for and by the entity using those tools to meet NERC standards. NERC standards should stipulate the requirements that drive proper behavior and system performance expected of the entity. The standards should NOT also impose constraints on the tools and the characteristics and performance requirements of those tools that are used by the entity to meet the expected system performance.
Response: The SAR never cites a specific tool but focuses on the functionality required for Real-time monitoring and analysis. An entity could use any tools that they have at their disposal as long as they meet the functionality, performance, and management requirements to be determined by an eventual standard.		
American Transmission Company	No	ATC believes that this should be addressed in the certification process, and if necessary a re-certification process. If that effort fails to achieve the overall goal of this SAR, (Minimum types of Real-time tools) then we would be more open to a standards develop project.
Response: Certification is a one time process. New certification criteria do not apply to entities that have already been certified. There is no re-certification process nor are there any plans that the SAR DT is aware of to expand the certification process to include re-certification. Certification only proves that an entity had the functionality at a single point in time. There is no operational history associated with certification; therefore, certification criteria that deal with Real-time operations or data are only evaluated by the certification team to determine if the entity has adequate functionality to go operational. Certification relies on the Compliance Monitoring and Enforcement Program (CMEP) to prove compliance for this functionality on an on-going basis. However, CMEP can only evaluate compliance to requirements defined in the Reliability Standards. Therefore, the SAR is necessary to allow the creation of standard requirements to address the issues raised in the SAR so they will be evaluated by CMEP. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR (Project 2009-02) to address the issues raised by FERC. It is difficult to perceive how any additions or changes to the certification process could come up with a solution that would satisfy and sustain a mandatory and enforceable status for those directives. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. The approach taken by the Standards Development Program is not to write new requirements that assess basic capabilities used to achieve performance measured through other requirements within the Reliability Standards. The SAR DT has researched the standards and concluded that other requirements do not presently exist to adequately cover the issues raised in the SAR. This SAR is the logical place and method for starting this process.		
CenterPoint Energy	No	CenterPoint Energy does not agree there is a reliability-related need for these proposed standards. The Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations reports on page 19 First Energy (FE) had state estimation and contingency analysis tools. The “tools were not used to assess system conditions, violating

Organization	Yes or No	Question 1 Comment
		NERC Operating Policy 5, Section C, Requirement 3, and Policy 4, Section A, Requirement 5. FE personnel did not ensure that their Real-Time Contingency Analysis (RTCA) was a functional and effective EMS application as required by NERC Policy 2, Section A, Requirement 1." CenterPoint Energy agrees that real-time monitoring and network analysis tools are necessary however, CenterPoint Energy believes the appropriate forum to evaluate an entities tools and their use would be during the certification process for a RC, BA, or TOP. Items such as functionality, performance, and management of the available tools as well as availability and quality of the entity's tools and how the entity uses the tools in their operation could be measured as well.
Response: Certification is a one time process. New certification criteria do not apply to entities that have already been certified. There is no re-certification process nor are there any plans that the SAR DT is aware of to expand the certification process to include re-certification. Certification only proves that an entity had the functionality at a single point in time. There is no operational history associated with certification; therefore, certification criteria that deal with Real-time operations or data are only evaluated by the certification team to determine if the entity has adequate functionality to go operational. Certification relies on the Compliance Monitoring and Enforcement Program (CMEP) to prove compliance for this functionality on an on-going basis. However, CMEP can only evaluate compliance to requirements defined in the Reliability Standards. Therefore, the SAR is necessary to allow the creation of standard requirements to address the issues raised in the SAR so they will be evaluated by CMEP. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR (Project 2009-02) to address the issues raised by FERC. It is difficult to perceive how any additions or changes to the certification process could come up with a solution that would satisfy and sustain a mandatory and enforceable status for those directives. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. This SAR is the logical place and method for starting this process. .		
Xcel Energy	No	Several standards (IRO-002, TOP-006, TOP-008) already address the issues identified in this SAR. Rather than develop a new standard, we recommend evaluate or incorporate into an existing project for these standards.
Response: The SAR DT is not convinced that the cited standards truly address the issues of the SAR. It is possible that the eventual SDT could decide that the best method of solving the issue is to revise existing standards versus writing a new standard(s). To provide the eventual SDT with the greatest flexibility, the SAR DT has also checked the box for 'Existing Standard' as well as 'New Standard'.		
American Electric Power	No	AEP fully supports the need for entities to have an adequate tool set to operate in a reliable manner. However, it is AEP's belief that that reliability issues that this SAR intends to address are not resulting from a void in the reliability standards, but instead in the current certification processes. For example, some RTOs require that there are qualified systems in place prior to operating, while others require that individuals be certified. We would support that both elements are necessary, that is the right tool set verified and individuals having NERC certification, and that this occur in advance. Using the NERC certification process of functional entities to ensure that the right tool set is in place and operating correctly is preferable to allowing, by administrative registration alone, to begin operating and then, afterwards, try to invoke standards to address operating issues

Organization	Yes or No	Question 1 Comment
		that could have been avoided up-front. The certification process will need to also be modified beyond a single verification to a periodic process to ensure tools remain in place and are operating as expected.
Response: Certification is a one time process. New certification criteria do not apply to entities that have already been certified. There is no re-certification process nor are there any plans that the SAR DT is aware of to expand the certification process to include re-certification. Certification only proves that an entity had the functionality at a single point in time. There is no operational history associated with certification; therefore, certification criteria that deal with Real-time operations or data are only evaluated by the certification team to determine if the entity has adequate functionality to go operational. Certification relies on the Compliance Monitoring and Enforcement Program (CMEP) to prove compliance for this functionality on an on-going basis. However, CMEP can only evaluate compliance to requirements defined in the Reliability Standards. Therefore, the SAR is necessary to allow the creation of standard requirements to address the issues raised in the SAR so they will be evaluated by CMEP. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR (Project 2009-02) to address the issues raised by FERC. It is difficult to perceive how any additions or changes to the certification process could come up with a solution that would satisfy and sustain a mandatory and enforceable status for those directives. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. This SAR is the logical place and method for starting this process.		
City of Tallahassee	No	While it should be mandatory for the RC's to have these reliability tools, it is a "best practice" for many of the TO's. For many other TO's it would be overkill to have to establish these programs for a relatively small area that is fed from only a couple of lines. How does the applicability change for the size of the organization? Standards should be the MINIMUM needed to operate reliably, not a culmination of the industries "best practices".
Response: The SAR doesn't mention specific tools but functionality. Applicability can be constrained by an eventual SDT but not by a SAR DT. If applicability should be constrained, it probably wouldn't be exclusively by size but on the importance to the reliability of the BES. Standards are neither a minimum nor a culmination of best practices but rather what is needed to reliably operate the BES.		
RRI Energy	No	For the RC, TOP and BA "Yes" in some fashion but the SAR should not be applicable to a GOP. The GOP is not a system operator at the same level as a RC, TOP and BA. We do not have the information on the real time status of the BES. We do not know transformer loadings (other than our GSU), transmission line loadings, generator status (other than our own) and details of demand (local load and projected load). GOP's by statute are prohibited from knowing this information. A standard is not needed to mandate that we have real time tools. The GOP's EMS has the necessary tools for the GOP to comply with the direction given them by the RC, TOP and BA. The GOP is required by the IA and market rules to follow the direction of the RC, TOP and BA. GOP is included as a System Operator but we believe that the definition should be modified. We plan to submit a SAR to request this change.
Response: The SAR DT understands that not all elements of the SAR would apply to a Generator Operator. By checking the box for Generator Operator, the SAR		

Organization	Yes or No	Question 1 Comment
DT is providing the eventual SDT with the flexibility to include a Generator Operator as an applicable entity if necessary. If the Generator Operator isn't checked off as an applicable entity in the SAR, the SDT does not have the flexibility to add them back in later if they are needed. However, if the Generator Operator is cited in the SAR and the SDT doesn't feel that they are needed in a standard, they can leave them off the list of applicable entities. For these reasons, the SAR DT feels that Generator Operators should continue to be listed as potential applicable entities in the SAR.		
NorthWestern Energy	No	NorthWestern Energy agrees that there is a reliability-related need for proposed guidelines pertaining to alarming, telemetry, and network analysis. However, a proposed standard should only come after guidelines and criteria have been tested during a trial period. This way the feasibility or functionality of the established guidelines, for Real-time tools, can be tested and proven to be effective before a sanction standard is put in place.
Response: The eventual SDT has the flexibility to ask that any standard or standard revision go through a field test prior to implementation. Any field testing would be appropriate after the requirements have been drafted and prior to implementation.		
Utility Services LLC	No	Standards will likely end up complicating the work of the real time operators. It will be impossible to devise tools that can deal with every possible scenario a RT operator will encounter. RT operators have been trained to assess the conditions at the time of the event or disturbance and to take all appropriate actions necessary to correct the condition.
Response: The SAR doesn't mention specific tools but functionality. An entity could have a training program but you could be missing essential functions.		
New Brunswick System Operator	No	NBSO does not believe that there is a reliability-related need for a standard specificaly for real time tools. Presently IRO and TOP standards address SOL and IROL awareness, detection and mitigation.
Response: The SAR doesn't mention specific tools but functionality. The standards cited are being revised and many of the requirements cited are suggested for retirement with the understanding that this project (Project 2009-02) will take on that responsibility.		
Kansas City Power & Light	No	No. It is not the place for requirements and standards to dictate tools to operating entities. Standards and requirements are to specify what should be done for reliability not how to do it. The report is excellent as a best practices for the industry and should be left at that.
Response: The SAR doesn't mention specific tools but functionality. The SAR only gets into 'what' and specifically and explicitly stays away from telling you 'how'. The SAR is not the report.		
Manitoba Hydro		While this project has value, it should fall very low on the list of priorities. Other standards with greater risk to the reliability of the BES should be reviewed and revised before starting any new project.
Response: The Standards Committee sets the priorities for standards projects. They will determine when this SAR moves to standard status if at all.		

Organization	Yes or No	Question 1 Comment
Duke Energy	Yes	However we are very concerned that the action to revise existing standards or develop new standards could be overly prescriptive. The requirements should remain at a high level, and focus on the "what", as opposed to the "how". The Introduction to the "Real-Time Tools Survey Analysis and Recommendations Final Report" contains 40 recommendations related to new or revised reliability standards; and we believe that many of these recommendations are too prescriptive to be placed in a reliability standard. This SAR should not become a project to implement all 40 of those recommendations. Additionally, we believe that many of these items more properly belong in an entity certification process and not in a Standard. The certification process should address core functionality tools. Standards should be used to address the operational application of these tools. See response to question #8.
Response: The SAR DT does not intend that any standard coming out of this effort be overly prescriptive but the eventual SDT will actually be writing the standard(s). The SAR clearly states that it is dealing with 'what' and not 'how'. The SAR is not dealing with all 40 recommendations of the report, just the items that are explicitly called out in the SAR. Certification is a one time process. New certification criteria do not apply to entities that have already been certified. There is no re-certification process nor are there any plans that the SAR DT is aware of to expand the certification process to include re-certification. Certification only proves that an entity had the functionality at a single point in time. There is no operational history associated with certification; therefore, certification criteria that deal with Real-time operations or data are only evaluated by the certification team to determine if the entity has adequate functionality to go operational. Certification relies on the Compliance Monitoring and Enforcement Program (CMEP) to prove compliance for this functionality on an on-going basis. However, CMEP can only evaluate compliance to requirements defined in the Reliability Standards. Therefore, the SAR is necessary to allow the creation of standard requirements to address the issues raised in the SAR so they will be evaluated by CMEP. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR (Project 2009-02) to address the issues raised by FERC. It is difficult to perceive how any additions or changes to the certification process could come up with a solution that would satisfy and sustain a mandatory and enforceable status for those directives. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. The approach taken by the Standards Development Program is not to write new requirements that assess basic capabilities used to achieve performance measured through other requirements within the Reliability Standards. The SAR DT has researched the standards and concluded that other requirements do not presently exist to adequately cover the issues raised in the SAR. This SAR is the logical place and method for starting this process.		
Public Service Enterprise Group Companies	Yes	PSEG agrees that these items require a standard. However, creating a new standard for telemetry or other items may duplicate or conflict with what is in standards COM-001 & COM-002. The scope of this SAR should be expanded to include potential revisions to COM-001 and COM-002 to ensure that all three standards are complementary and consistent.
Response: The SAR DT does not believe that COM-002 is relevant to this SAR. However, COM-001 may be applicable. The SAR has been expanded to allow the		

Organization	Yes or No	Question 1 Comment
eventual SDT to make the decision as to whether to write new standards or revise existing standards.		
WECC Reliability Coordination	Yes	Our only concern is that the standard may outpace the available technology. Also, only tools that are applicable to all interconnections should be inlcuded in the standard.
Response: The SAR deals with functionality, not specific tools or technology. An eventual standard needs to cover more than just interconnections.		
Southern Company	Yes	In the absense of a certification process with re-certification, new standards should be established only if the same end can't be reached by revising existing standards. The RTBPTF's report gave several examples where real-time tools were mentioned but not well defined in existing standards. The SAR team should begin developing new standards only after they have determined that the same results can't be obtained by revising existing standards.
Response: The SAR has been expanded to allow the eventual SDT to make the decision as to whether to write new standards or revise existing standards. Certification is a one time process. New certification criteria do not apply to entities that have already been certified. There is no re-certification process nor are there any plans that the SAR DT is aware of to expand the certification process to include re-certification. Certification only proves that an entity had the functionality at a single point in time. There is no operational history associated with certification; therefore, certification criteria that deal with Real-time operations or data are only evaluated by the certification team to determine if the entity has adequate functionality to go operational. Certification relies on the Compliance Monitoring and Enforcement Program (CMEP) to prove compliance for this functionality on an on-going basis. However, CMEP can only evaluate compliance to requirements defined in the Reliability Standards. Therefore, the SAR is necessary to allow the creation of standard requirements to address the issues raised in the SAR so they will be evaluated by CMEP. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR (Project 2009-02) to address the issues raised by FERC. It is difficult to perceive how any additions or changes to the certification process could come up with a solution that would satisfy and sustain a mandatory and enforceable status for those directives. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. The approach taken by the Standards Development Program is not to write new requirements that assess basic capabilities used to achieve performance measured through other requirements within the Reliability Standards. The SAR DT has researched the standards and concluded that other requirements do not presently exist to adequately cover the issues raised in the SAR. This SAR is the logical place and method for starting this process.		
NERC RTO SDT	Yes	The RTOSDT technically takes no position on the reliability need for requirements that state which specific tools are required, as we believe this to be the answer to the "how" question as opposed to the "what" question which is the nature of a true reliability requirement.

Organization	Yes or No	Question 1 Comment
Hydro One	Yes	From my travels and contacts I've witnessessed extreme variances in tool capability among control centres. A lack of standards has allowed companies to cut corners while others strive for excellence.
Midwest ISO	Yes	Midwest ISO supports the proposed standard to develop “requirements for the functionality, performance and management of Real-Time tools for Reliability Coordinators”.
Electric Market Policy	Yes	
Northeast Power Coordinating Council	Yes	
Pugets Sound Energy	Yes	
South Carolina Electric and Gas	Yes	
Alberta Electric System Operator	Yes	
Exelon; ComEd, PECO and Exelon Generation	Yes	
Ameren	Yes	
Consumers Energy Company	Yes	
Oncor Electric Delivery	Yes	
Con Edison System Operation	Yes	

Organization	Yes or No	Question 1 Comment
ReliabilityFirst Corporation	Yes	
Edward Stein (self)	Yes	
PacifiCorp	Yes	
FMPA	Yes	
Bonneville Power Administration	Yes	
FirstEnergy	Yes	
Response: Thank you for your response.		

2. Do you agree with the scope of the proposed standards action?

Summary Consideration: The SAR DT has changed the title and wording of the SAR to clarify the intent. The SAR has also been revised to allow for the possibility of revising existing standards as opposed to writing new standards.

Organization	Yes or No	Question 2 Comment
Northeast Power Coordinating Council	No	The scope of the SAR is too "invasive" to operations. The SAR should address the "output" requirements for the hardware and software-- operators must be provided with the information "results" they need to know to determine how the system is behaving real time, and also for possible system configurations (e.g. contingency analysis). Even though in the Brief Description section of the SAR it states "The intent is to describe "what" needs to be done but not "how" to do it." the performance and management of tools falls into the "how" category. While NPCC suports the material in the RTBPTF Real-time Tools Survey Analysis and Recommendations report, the Standard should be limited to stating the reliability objectives of the Real-time Tools, leaving to each Registered Entity that must comply with the Standard the decision on how they are going to meet these objectives.
Response: The SAR DT believes that the SAR does address output requirements and reliability objectives. However, the wording may not be as clear as it could be. Therefore, the SAR DT has changed the language of the SAR text to bring greater clarity to this task. The SAR is explicit in stating 'what' and not 'how'.		
Public Service Enterprise Group Companies	No	The scope of this SAR should be expanded to include potential revisions to COM-001 and COM-002 to ensure that all three standards are non-duplicative, complementary and consistent.
Response: The SAR DT does not believe that COM-002 is relevant to this SAR. However, COM-001 may be applicable. The SAR has been expanded to allow the eventual SDT to make the decision as to whether to write new standards or revise existing standards.		
MRO NERC Standards Review Subcommittee	No	Is the scope of this SAR to make operators aware of the alarms?Keep close to the practices of the recommendations of the Blackout report. Some type of caution should be expressed in that entities should not be told how to operate or address their alarms. A guideline would be more appropriate for this proposed standards action. The operating environment should focus on reliable system operation and focus for the system operation staff. For example the size of the entity's system or how the entity is structured will vary the type of the tools used and would make it difficult to make a one-size fits all standard. There is concern that the SAR may be expecting research and development of tools. This is not an appropriate use of a SAR.
Response: The SAR DT has changed the title and wording of the SAR to make the intent clearer. This revised wording should alleviate your concerns. The SDT will have the flexibility to constrain solutions to specific entities based on defined criteria so that one size doesn't fit all. There was no intent to mandate research and		

Organization	Yes or No	Question 2 Comment
development of tools, indeed, the SAR does not mention tools at all but emphasizes functionality.		
IRC Standards Review Committee	No	The SAR scope while limiting itself to Alarming, Telemetry and Network Analysis does not excuse the fact that operational tools and their characteristics should NOT be mandated by NERC standards.Mandating tools and their characteristics will likely stifle innovation and will overlook or otherwise fail to consider the variations in the local characteristics that must be addressed by the affected entities; and can impact Market structures, integration of renewable resources, and adoption of smart grid devices.
ISO New England Inc.	No	The SAR scope while limiting itself to Alarming, Telemetry and Network Analysis does not excuse the fact that operational tools and their characteristics should NOT be mandated by NERC standards.Mandating tools and their characteristics will stifle innovation and will overlook the local characteristics that must be addressed by the affected entities; and can impact Market structures and integration of renewal resources and adoption of smart grid devices.
IESO	No	Mandating tools and their characteristics will stifle innovation and will overlook the local characteristics that must be addressed by the affected entities, and can impact market structures and integration and management of other emerging issues such as renewal resources and adoption of smart grid devices.
Response: The SAR does not mention tools or their characteristics but emphasizes functionality.		
American Transmission Company	No	Please see our comment to question 1.
CenterPoint Energy	No	See response to Q1.
Manitoba Hydro		See comment for Question 1.
Response: Please see response to comments in question 1.		
Xcel Energy	No	There is concern that the SAR may be expecting research and development of tools. This is not an appropriate use of a SAR.
Response: There was no intent to mandate research and development of tools, indeed, the SAR does not mention tools at all but emphasizes functionality.		
American Electric Power	No	AEP believes that these actions are largely covered in the existing standards, including those shown below (Table 1) in the related SAR functions format. Repetition of requirements across multiple standards may create ambiguity if alternative requirements or methods are defined from one to the other. It also establishes the possibility of compounding violations for a single infraction. To the extent that new requirements are needed to address operational gaps, these could be made in the next

Organization	Yes or No	Question 2 Comment
		revision of the applicable existing standards, which is to be done on a periodic basis. TABLE I - Existing NERC Reliability Standards addressing Alarming, Telemetry, Network Analysis, Related Performance Metrics (Availability and Quality), and Processes and Procedures supporting Real-Time Tools (Change Mgt., Maintenance Coordination, and Failure Notification) : Alarming COM-001-1.1, does have some language related to the alarming of vital telecommunications facilities for voice and data. TOP-006-2 stress the importance of monitoring equipment to be used to 'alarm' or bring to the attention of operating personnel important deviations in operating conditions and to indicate, if appropriate, the need for corrective action. IRO-002-2, gives direction on the alarming management and awareness systems that need to be in place for the RC. Telemetry BAL-001-0, dealing with the ACE equation along with Control Performance Standards (CPS1 and CPS2) BAL-004-0, addressing Time Error Corrections BAL-005-0.1b, focuses on the telemetry components necessary for calculating the ACE equation BAL-006-1.1, tasks the Balancing Authorities to calculate and record hourly Inadvertent Interchange IRO-004-1, details the information that needs to be sent to the RC for reliability studies to be performed IRO-005-3, breaks down most of the parameters that a RC would need to receive for monitoring the BES TOP-002-2, highlights that changes in transmission facility status, along with ratings should be monitored and conveyed to the RC and BA TOP-005-2 is the Operational Reliability Information standard that lays out all of the data that needs to be updated at least every ten minutes TOP-006-2 is another standard focused on monitoring system conditions. VAR-001-1 also is offering details on what data should be pipelined back to the operating control centers from the BES. Network Analysis IRO-004-1, discusses the ability for the RC, TO, and BA to conduct next-day reliability analyses to ensure that the BES can be operated reliably. TOP-002-2, looks at the performance of current-day, next-day, and studies operational studies in conjunction with neighboring BA(s) and TO(s).

Organization	Yes or No	Question 2 Comment
		TOP-002-2, also address the thermal and voltage contingency analysis that needs to be performed. IRO-002-2, details the analysis that needs to take place via state estimation and other visualization tools.Performance Metrics for Availability and Quality AvailabilityAvailability BAL-005-0.1b, R8 looks at SCADA availability to gather data and calculate ACE. This requirement also address the availability of Frequency Metering equipment (99.95%). COM-001-1.1, stresses the diversity and redundancy of communication paths for the available exchange of Interconnection and operating information, internally and externally to AEP. EOP-008-0, emphasizes the development of a plan to ensure the monitoring and control of transmission, distribution and generation assets even with the loss of the Control Center. Quality BAL-005-0.1b, R17 breaks down the accuracy of the metering devices for time error and frequency measurements BAL-006-1.1, requires adjacent balancing authorities to have common megawatt-hour meters at the interconnection point. IRO-005-3, discusses the importance of operating to the most limiting element if there is a discrepancy between various entities monitoring the same facilities. TOP-006-2 generically states that sufficient metering of suitable range, accuracy and sampling rate (if applicable) to ensure accurate and timely monitoring of operating conditions. Processes and Procedures supporting Real-Time Tools: Change Mgt., Maintenance Coordination, and Failure NotificationChange Management FAC-009-1, obligates the communication to RC(s), PA(s), TP(s), and TO(s) for new facility ratings on the Bulk Electric System. TOP-002-2, implies that there should be a facility change notification system in place for neighboring entities to use uniform line identifiers when referring to interconnected facilities. BAL-004-0, addressing Time Error Corrections Maintenance Coordination FAC-009-1, it is implied that these changes will be applied to the real time computer model with alterations to facility ratings on the Bulk Electric System. TOP-002-2, talks about each BA and TO maintaining accurate computer models for analyzing and planning system operations.Failure Notification IRO-005-3, highlights the responsibility to identify significant issues with ACE that can attribute to other errors, such as

Organization	Yes or No	Question 2 Comment
		frequency error and Time error.
Response: The SAR DT has revised the SAR to include the possibility of revising existing standards based on your research and comments. However, the SAR DT has only included TOP, IRO, and COM standards. The SAR DT does not believe it is necessary to include any other standards. The SAR DT researched the BAL, FAC, VAR, and EOP standards mentioned and has determined that they do not need to be included as they are not directly addressing the issues in the proposed scope of this SAR.		
City of Tallahassee	No	This should be targeted to the RC's initially. Let's get it up and running for them before we make it mandatory for the TO's and BA's. Many TO's and BA's will pursue them during the interim because they will know it is coming and can begin the long trek to get there.
Response: The SAR DT believes that Transmission Operators and Balancing Authorities are just as important to the reliability of the BES as are the Reliability Coordinators and thus should be included in this SAR from the outset.		
Duke Energy	No	We believe that the scope is too large to be manageable, and should be broken up into multiple projects.
Response: The SAR DT believes that the topics covered in the SAR are too closely related to be split up into different projects.		
RRI Energy	No	See comments from Question 1. This SAR should not include GOP in the applicability section.
Response: See response to question 1.		
NorthWestern Energy	No	NorthWestern Energy agrees that the scope of the SAR has merit for establishing guidelines, but not for developing a new standard. The functionality, performance, and management of Real-time tools for Reliability Coordinators, Transmission Operators, and Balancing Authorities need guidance and direction. However, the proposal for a new standard should be prolonged until reliability entities can implement real time practices, put forth from guidelines, and truly test the feasibility, functionality, performance, and management of Real-time tools
Response: Guidelines are only pertinent when associated with a particular standard or requirements. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR to address the issues raised by FERC. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. This SAR is the logical place and method for starting this process and will tie this together. The eventual SDT has the flexibility to ask that any standard or standard revision go through a field test prior to implementation. Any field testing would be appropriate after the requirements have been drafted and prior to implementation.		

Organization	Yes or No	Question 2 Comment
Kansas City Power & Light	No	
Utility Services LLC	No	
Response: The SAR DT is unable to respond since you didn't include any specific reasons for your disagreement. In the future, please provide specifics so that the SAR DT can adequately respond to your concerns.		
Hydro One	Yes	I agree if items such as wide area displays, identificaion of equipment outages (tagging, colours) which are crucial for visualization are being considered in other standards.
Response: The SAR does not tell you 'how' to use the functionality but 'what' an entity needs to do.		
SERC OC Standards Review Group	Yes	See comments to Question 8.
Entergy Services	Yes	Entergy supports the SERC OC comments.
Response: Please see response to comments in question 8.		
WECC Reliability Coordination	Yes	It appears that there may be a dollar and resource impact associated with the new and revised standards, so a phased approach may be required.
Response: The eventual SDT would interpret how any new or revised standard(s) would be implemented and utilize a phased approach if they believe it warranted.		
Pugets Sound Energy	Yes	The SAR indicates it address selected recommendations in the RTBPTF Report. It appears the focus from the report is on 1. Reliability Toolbox and not recommendations listed in 2. Enhanced Operator Situational Awareness or 3. Address Six Major Issues to enhance the effectiveness of real-time tools which we would agree with at this time.
Response: The SAR DT has been handed a scope of action that deals with specific recommendations but not all the recommendations in the RTBPTF Report.		
NERC RTOSDT	Yes	Again, the RTOSDT takes no position on the scope.
Southern Company	Yes	This SAR covers the concerns spelled out in the Real-time Tools Survey Analysis and Recommendations report.

Organization	Yes or No	Question 2 Comment
Electric Market Policy	Yes	
Midwest ISO	Yes	
South Carolina Electric and Gas	Yes	
Alberta Electric System Operator	Yes	
Exelon; ComEd, PECO and Exelon Generation	Yes	
Ameren	Yes	
Consumers Energy Company	Yes	
Oncor Electric Delivery	Yes	
Con Edison System Operation	Yes	
ReliabilityFirst Corporation	Yes	
Edward Stein (self)	Yes	
PacifiCorp	Yes	
FMPA	Yes	

Organization	Yes or No	Question 2 Comment
Bonneville Power Administration	Yes	
FirstEnergy	Yes	
Response: Thank you for your response.		

3. The SAR emphasizes functionality, performance, and management of tools as opposed to naming specific tools. The intent is to describe 'what' needs to be done as opposed to 'how' to do it. Do you agree with this approach? If not, please state specific reasons why not.

Summary Consideration: The majority of commenters agree with the approach of the SAR. Those who disagreed were generally okay with the concept but concerned about drifting into 'how'. The SAR DT has changed the title and wording of the SAR to make the intent even clearer to alleviate the concerns of those who disagreed.

Organization	Yes or No	Question 3 Comment
Northeast Power Coordinating Council	No	NPCC agrees that the SAR needs to emphasize the "what" that needs to be done to ensure the reliable and effective functionality, performance, and management of Real-time tools, not the "how" to do it. General categories of types of tools, such as state estimators, contingency analysis programs, etc. can be mentioned. How the results or outputs from those tools are generated, or the management of those tools outside the operating floor, are outside the scope of a standard. The results and of those tools and how they are used (and ease of use), are the most important issues.
Response: The SAR DT agrees that the SAR emphasizes the 'what' and not the 'how'. The SAR DT has revised the title and wording of the SAR to clarify the intent.		
IRC Standards Review Committee	No	The IRC does agree with the principle that NERC standards should define "What" not "How". However, by defining the characteristics of alarms, of telemetry and of Network Analysis, this SAR will be defining the HOW of an entity alarming, metering and analyzing its system. It seems obvious that analytic tools used to analyze a small co-op would be quite different from the analytic tools needed to analyze a large RTO. The tools needed to analyze a stable/fixed load area would be quite different from a system with highly varying loads. The proposed standards will either create large inefficiencies for the smaller entity, or the standards will create inadequate requirements for the larger entity.
ISO New England Inc.	No	The IRC does agree with the principle that NERC standards should define "What" not "How". However, by defining the characteristics of alarms, of telemetry and of Network Analysis, this SAR will be defining the HOW of an entity alarming, metering and analyzing its system. It seems obvious that analytic tools used to analyze a small co-op would be quite different from the analytic tools needed used to analyze a large RTO. The tools needed to analyze a stable/fixed load area would be quite different from a system with highly varying loads. The proposed standards will either create large inefficiencies for the smaller entity, or the standards will create inadequate requirements for the larger entity.

Organization	Yes or No	Question 3 Comment
IESO	No	We support the principle that NERC standards should define the "What" not the "How". However, by defining the characteristics of alarms, of telemetry and of Network Analysis, this SAR will be defining the HOW of an entity will alarm, meter and analyze its system. The "what", in our view, will be an entity's capability to monitor and analyze the power system and respond to alarmed situations. We do not think that a standard that stipulates the characteristics and performance level of tools is necessary.
Response: The SAR DT has changed the title and wording of the SAR to make the intent clearer. The SDT will have the flexibility to constrain solutions to specific entities based on defined criteria so that one size doesn't fit all.		
American Electric Power	No	While we do agree that "what," not "how," is the correct approach to describe the required real time tools, we believe it should be established in the certification process as described in item #1 above. While it is easy to say we will confine ourselves to "what," it's difficult to prevent establishing criteria that inadvertently leads to a particular "how." Should "how" occur, it limits opportunities for improvements and innovation, and could hamper better results. AEP agrees with this approach of describing "what" needs to be done, as opposed to "how" to do it, as this preferred approach encourages new technology development in achieving the intent of the standard.
Response: Certification is a one time process. New certification criteria do not apply to entities that have already been certified. There is no re-certification process nor are there any plans that the SAR DT is aware of to expand the certification process to include re-certification. Certification only proves that an entity had the functionality at a single point in time. There is no operational history associated with certification; therefore, certification criteria that deal with Real-time operations or data are only evaluated by the certification team to determine if the entity has adequate functionality to go operational. Certification relies on the Compliance Monitoring and Enforcement Program (CMEP) to prove compliance for this functionality on an on-going basis. However, CMEP can only evaluate compliance to requirements defined in the Reliability Standards. Therefore, the SAR is necessary to allow the creation of standard requirements to address the issues raised in the SAR so they will be evaluated by CMEP. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR (Project 2009-02) to address the issues raised by FERC. It is difficult to perceive how any additions or changes to the certification process could come up with a solution that would satisfy and sustain a mandatory and enforceable status for those directives. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. The approach taken by the Standards Development Program is not to write new requirements that assess basic capabilities used to achieve performance measured through other requirements within the Reliability Standards. The SAR DT has researched the standards and concluded that other requirements do not presently exist to adequately cover the issues raised in the SAR. This SAR is the logical place and method for starting this process. The SAR DT has changed the wording of the SAR to make the intent clearer. This should alleviate any concerns as to drifting towards a 'how'.		
City of	No	While I can appreciate NERC trying to avoid mentioning specific brand names, there is no point in not saying you have to have a

Organization	Yes or No	Question 3 Comment
Tallahassee		Contingency Analysis Program if that is what you want us to have. The continued interpretation of what NERC wants becomes a guessing game and we don't find out that we guessed wrong until we are audited.
Response: The SAR DT believes that there are multiple ways to achieve the desired results and that emphasizing functionality is the best method to use in the SAR. This point of view seems to be supported by the comments received.		
NorthWestern Energy	No	NorthWestern Energy agrees with this approach but not for the proposal/request of a standard. Guidelines that describe what needs to be done for the functionality, performance, and management of Real-time tools should be established for Reliability Coordinators (RC) first. Once a test and evaluation period is complete, then a new standard should be proposed for Transmission Operators (TOP) and Balancing Authorities (BA) with proper guidelines for implementation. RCs have the highest authority and wide area view of Interconnections, so it seems logical that new guidelines in this area should begin at the RC level first.
Response: Guidelines are only pertinent when associated with a particular standard or requirements. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR to address the issues raised by FERC. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. This SAR is the logical place and method for starting this process and will tie this together.		
FirstEnergy	Yes	We agree with this approach and we encourage the SAR and subsequent effort of the SDT to focus on the minimum requirements (tools) needed to provide an Adequate Level of Reliability (ALR). The standard(s) should be careful to avoid prescriptive language that mandates the use of what could be considered cutting edge technologies that would cause inefficient use of limited resources.
MRO NERC Standards Review Subcommittee	Yes	This approach is stated on page 29 of NERCs "Drafting Team Guidelines". The Drafting Team must follow the guideline of establishing the "what" criteria for each requirement.
Response: Thank you for your response.		
American Transmission Company	Yes	This approach should be incorporated into the certification/re-certification process.
Response: Certification is a one time process. New certification criteria do not apply to entities that have already been certified. There is no re-certification process nor are there any plans that the SAR DT is aware of to expand the certification process to include re-certification. Certification only proves that an entity had the functionality at a single point in time. There is no operational history associated with certification; therefore, certification criteria that deal with Real-time operations or		

Organization	Yes or No	Question 3 Comment
data are only evaluated by the certification team to determine if the entity has adequate functionality to go operational. Certification relies on the Compliance Monitoring and Enforcement Program (CMEP) to prove compliance for this functionality on an on-going basis. However, CMEP can only evaluate compliance to requirements defined in the Reliability Standards. Therefore, the SAR is necessary to allow the creation of standard requirements to address the issues raised in the SAR so they will be evaluated by CMEP. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR (Project 2009-02) to address the issues raised by FERC. It is difficult to perceive how any additions or changes to the certification process could come up with a solution that would satisfy and sustain a mandatory and enforceable status for those directives. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. The approach taken by the Standards Development Program is not to write new requirements that assess basic capabilities used to achieve performance measured through other requirements within the Reliability Standards. The SAR DT has researched the standards and concluded that other requirements do not presently exist to adequately cover the issues raised in the SAR. This SAR is the logical place and method for starting this process.		
WECC Reliability Coordination	Yes	Although it appears that in the survey results that some items are specifically mandated.
Response: This is not the RTBPTF Report but a SAR and an eventual SDT will be bound by the words of the SAR. Nothing is mandated.		
Duke Energy	Yes	See our comment to question #1 above. We are concerned that if requirements are overly prescriptive, they are describing "how" instead of "what".
Response: See response to question 1.		
Pugets Sound Energy	Yes	PSE suggests caution in defining "what" needs to be done if it leads to "how much" needs to be installed. An over abundance of telemetry data and alarms can create complexity when responding to an event and must be displayed effectively to be valuable.
Response: The SAR DT has changed the wording of the SAR to make the intent clearer. The SAR is focused on functionality.		
RRI Energy	Yes	Provided that the lack of the how will not cause an issue during an audit.
Response: An auditor can only enforce what is cited in the standard requirements. If the requirements are 'what', then the auditor can only enforce 'what'.		
SERC OC Standards Review	Yes	See comments to Questions 5 & 8.

Organization	Yes or No	Question 3 Comment
Group		
Entergy Services	Yes	Entergy supports the SERC OC comments.
Response: Please see response to comments in questions 5 & 8.		
Public Service Enterprise Group Companies	Yes	The SAR should be limited to the “what” and not include the “how.” There are multiple equally effective ways of accomplishing the “how” and the decision as to which to use should be left to the impacted registered entities.
NERC RTOSDT	Yes	The RTOSDT agrees, however, it seems unlikely to be achievable in this case. Discussions surrounding analytical capabilities seemingly always devolve to specific tools.
Midwest ISO	Yes	The Midwest ISO agrees the SAR should focus on “what” and not “how”.
Utility Services LLC	Yes	When appropriate, standards should never prescribe how.
Exelon; ComEd, PECO and Exelon Generation	Yes	Agree that it is very important that a standard or certification process for validating Real Time Tools does not direct the applicable entities to use specific tools. Exelon endorses the "what", not the "how" approach as emphasized in the SAR.
Ameren	Yes	This is the correct approach. Tools will change over time. Defining the “what” should be the focus. Leave the technical “how” to those developing solutions.
Hydro One	Yes	It is the end result that counts - how you get there will within reason be driven by the standards.
Manitoba Hydro	Yes	Although the SAR does not intend to indicate “how to” perform the specific tasks/requirements, it may be useful to identify tools in a separate document that could be used to achieve the specific task without directing the use of a specific one.
FMPA	Yes	It is very important that we focus on the "what" and not the "how". Smaller systems can easily meet the functionality requirements of an eventual standards without the need for expensive additional software.
Kansas City Power & Light	Yes	

Organization	Yes or No	Question 3 Comment
Electric Market Policy	Yes	
Bonneville Power Administration	Yes	
South Carolina Electric and Gas	Yes	
Alberta Electric System Operator	Yes	
Consumers Energy Company	Yes	
Oncor Electric Delivery	Yes	
Con Edison System Operation	Yes	
ReliabilityFirst Corporation	Yes	
Xcel Energy	Yes	
Edward Stein (self)	Yes	
Southern Company	Yes	
Response: Thank you for your response.		

4. The SAR focuses on alarming, telemetry, and network analysis. Do you agree that this is the right set of functions? If not, please state specific reasons why not.

Summary Consideration: The majority of respondents agree with the functions listed in the SAR. However, some concerns were raised that caused the SAR DT to change the title and wording of the SAR to make the intent clearer. Addition of other functions was suggested by some entities but there was no consensus on changing the scope in this regard.

Organization	Yes or No	Question 4 Comment
Northeast Power Coordinating Council	No	NPCC agrees that the functions stated are correct, but not all inclusive. The SAR needs to clarify that all of the functions contained in the Real Time Tools Report are not being addressed at this time due to the expansiveness of the RTBPTF report. There should be a fourth required functionality identified as Control. Control would include the application of and methods to ensure control capability is maintained at a control center and remote substations.
Response: The SAR explicitly states "This SAR addresses selected recommendations in the RTBPTF Report as determined by the Real-time Best Practices Standards Study Group: Project 2009-02." The study group organized to review the RTBPTF Report was restricted to those issues identified in the report.		
Public Service Enterprise Group Companies	No	If the scope of this SAR is expanded to include potential revisions to COM-001 and COM-002 to ensure that all three standards are non-duplicative, complementary and consistent, then PSEG concurs that alarming, telemetry and network analysis are the right set of functions.
Response: The SAR DT has expanded the scope of the SAR to include potential revisions to COM-001 but does not agree that COM-002 is pertinent to this SAR.		
MRO NERC Standards Review Subcommittee	No	Each RC, TOP, and BA will have a different set of needs based on System Operator experience. This is why alarming, telemetry and network analysis should be training requirements, not a new standard. When a RC, TOP, and BA follow the systematic approach to training, these items should be part of the company's reliability - related task list.It is also not clear as to how far reaching standards for these functions would be. For example, MRO NSRS would not be in support of anything that would infer the need to install duplicate instruments to provide information to a Reliability Coordinator (as in most cases this data is acquired by the TOP and BA and then passed to the RC).
Response: An entity could have a training program but you could be missing essential functions. The SAR does not mention duplicate instruments. The SAR only speaks to 'what'; 'how' things are done would be left to the individual entity.		
WECC Reliability	No	The survey results focus on additional items not listed above and do include data requirements such as day ahead study data

Organization	Yes or No	Question 4 Comment
Coordination		requirments, path limts requirement and special protection schemes monitoring applicability.
Response: The SAR is not dealing with all 40 recommendations of the report, just the items that are explicitly called out in the SAR.		
FMPA	No	The proposed functions do not seem to address the "visualization" over a wide geographic area aspect of blackout recommendations. "Visualization" probably ought to be added as a function applicable to Reliability Coordinators.
Response: The SAR DT believes that visualization is derived from the functionality that is spelled out in the SAR. Therefore, it is not needed as a separate item in the SAR.		
Xcel Energy	No	It is not clear as to how far reaching standards for these functions would be. For example, we would not be in support of anything that would infer the need to install duplicate instruments to provide information to a Reliability Coordinator (as in most cases this data is acquired by the TOP and BA and then passed to the RC).
Response: The SAR does not mention duplicate instruments. The SAR only speaks to 'what'; 'how' things are done would be left to the individual entity.		
American Electric Power	No	As described in item #2 above, we believe that these areas of focus are already covered in the existing standards (Table I). NERC is actively involved in consolidating standards in the revision process as witnessed in Project 2006-03. Creating new standards unnecessarily would be counter productive to this trend.
Response: Please see the response for question 2.		
City of Tallahassee	No	See response to question 1. Network Analysis does not need to be a requirement for smaller TO's. Until we can provide some way of avoiding the large expense without a measurable increase in reliability, we should not be pushing this function onto the TO. The TO's SHOULD be responsible for providing the data needed to the RC so his model works properly.
Response: The SDT will have the flexibility to constrain solutions to specific entities based on defined criteria so that one size doesn't fit all.		
Ameren	No	The SAR should include all aspects of the "Reliability Toolbox" as defined in the RTBPTF report.
Response: The SAR is not dealing with all recommendations of the report, just the items that are explicitly called out in the SAR.		
RRI Energy	No	The SAR's focus on "alarming, telemetry and network analysis" I believe supports dropping GOP from the applicability. Our EMS contains the alarms and telemetry needed to comply with standards and market rules. What level of network analysis does the SAR contemplate a GOP performing? Further, if a GOP feels that it needs to have unit AVR mode telemetry to insure compliance to VAR-002 then the GOP will add that alarm to its EMS. An additional standard requirement is not needed for the GOP to have

Organization	Yes or No	Question 4 Comment
		the necessary real time tools to support ALR of the BES.
Response: The SAR DT understands that not all elements of the SAR would apply to a Generator Operator. By checking the box for Generator Operator, the SAR DT is providing the eventual SDT with the flexibility to include a Generator Operator as an applicable entity if necessary. If the Generator Operator isn't checked off as an applicable entity in the SAR, the SDT does not have the flexibility to add them back in later if they are needed. However, if the Generator Operator is cited in the SAR and the SDT doesn't feel that they are needed in a standard, they can leave them off the list of applicable entities. For these reasons, the SAR DT feels that Generator Operators should continue to be listed as potential applicable entities in the SAR.		
NorthWestern Energy	No	NorthWestern Energy agrees with the focus on alarming and telemetry for all three of the reliability entities mentioned (Reliability Coordinators, Transmission Operators, and Balancing Authorities). The focus on network analysis should only apply to RCs first and then to TOPs and BAs. Northwestern Energy would also recommend having alarming for telemetry data only. Northwestern energy would not recommend replacing real-time alarming values with state estimated values. Again here NorthWestern Energy believes that the focus on alarming, telemetry, and network analysis should begin with guidelines and criteria before a standard is proposed/requested.
Response: The SAR DT believes that Transmission Operators and Balancing Authorities are just as important to the reliability of the BES as are the Reliability Coordinators and thus should be included in this SAR from the outset. How one utilizes data for alarming would be up to the individual entity and is not specified in the SAR as the SAR emphasizes functionality and 'what' as opposed to 'how'. The SDT has the flexibility to ask that any standard or standard revision go through a field test prior to implementation. That is not a consideration for a SAR.		
Kansas City Power & Light	No	Operational situational awareness is a very complex mix of tools and displays of graphical and tabular information. It will be an extraordinarily difficult effort for a standard to capture that mix. The current standards and requirements that require sufficient monitoring, outage coordination, outage evaluation, mitigation plans for extreme operating conditions, etc. taken all together form a comprehensive assemblage of reliability principles that are sufficient to address the concerns of the August 14 black-out report.
Response: The SAR DT does not agree that the existing standards cover the issues of performance metrics or availability.		
Utility Services LLC	No	
IESO	No	We do not agree with the need for such a standard.
Response: Thank you for your response.		
IRC Standards Review	No	See responses above.

Organization	Yes or No	Question 4 Comment
Committee		
ISO New England Inc.	No	See responses above.
CenterPoint Energy	No	See response to Q1.
American Transmission Company	Yes	Please see our comment to question 1.
Response: Please see response to comments in question 1.		
Oncor Electric Delivery	Yes	Smaller entities operating within the bulk electric system may bear a higher burden than larger ones. The benefits of providing real-time network analysis for these smaller entities may be far less than the costs.
Response: The SDT will have the flexibility to constrain solutions to specific entities based on defined criteria so that one size doesn't fit all.		
Exelon; ComEd, PECO and Exelon Generation	Yes	Exelon suggests historical data (storage and retrieval) should also be considered as an appropriate function. Also, while these may be the right functions for Real Time Tools, a total systems approach should be emphasized as opposed to focusing on "silos" of information and functions, RTU data, hardware, software etc.
Response: This project, if authorized by the Standards Committee, will be restricted to the items identified in the SAR.		
Hydro One	Yes	Network analysis is so broad that many functions can be included in this category i.e. dynamic equipment ratings, short circuit analysis, breaker duty cyclee etc that this SAR can be as broad as required.
Response: The SAR has been clarified to more clearly indicate the intent of the SAR DT.		
NERC RTOSDT	Yes	The RTOSDT takes no position on this issue.
Electric Market Policy	Yes	

Organization	Yes or No	Question 4 Comment
South Carolina Electric and Gas	Yes	
Pugets Sound Energy	Yes	
Midwest ISO	Yes	
Alberta Electric System Operator	Yes	
Con Edison System Operation	Yes	
Entergy Services	Yes	
ReliabilityFirst Corporation	Yes	
Manitoba Hydro	Yes	
Duke Energy	Yes	
Consumers Energy Company	Yes	
Edward Stein (self)	Yes	
Southern Company	Yes	
PacifiCorp	Yes	

Organization	Yes or No	Question 4 Comment
SERC OC Standards Review Group	Yes	
Bonneville Power Administration	Yes	
FirstEnergy	Yes	
Response: Thank you for your response.		

5. The SAR details the need for performance metrics for availability, quality, change management, maintenance coordination, and failure notification. Do you agree that this is the correct set of metrics? If not, please state specific reasons why not.

Summary Consideration: The SAR DT has changed the title and wording of the SAR to provide greater clarity. The SAR has been revised to specify that any metrics will be vetted by the industry through the standards comment process.

Organization	Yes or No	Question 5 Comment
Northeast Power Coordinating Council	No	The statement in Question 5 should be worded "The SAR details the need for performance metrics for alarming, telemetry, and network analysis functionalities, with the considerations of availability, quality, change management, maintenance coordination, and failure notification." What is meant by the term "change management"?
Response: In the context of this SAR, change management is the process in which changes are implemented in a controlled manner by following pre-defined procedures.		
SERC OC Standards Review Group	No	The SERC OC Standards Review Group supports placing any requirements related to this SAR in the Certification process. As such, this conversation is premature at this time, and should be held with the industry when the final location of these requirements is decided. It is unclear at this time how performance metrics would be tracked or enforced if the requirements become certification requirements.
Entergy Services	No	Entergy supports the SERC OC comments.
Response: Certification is a one time process. New certification criteria do not apply to entities that have already been certified. There is no re-certification process nor are there any plans that the SAR DT is aware of to expand the certification process to include re-certification. Certification only proves that an entity had the functionality at a single point in time. There is no operational history associated with certification; therefore, certification criteria that deal with Real-time operations or data are only evaluated by the certification team to determine if the entity has adequate functionality to go operational. Certification relies on the Compliance Monitoring and Enforcement Program (CMEP) to prove compliance for this functionality on an on-going basis. However, CMEP can only evaluate compliance to requirements defined in the Reliability Standards. Therefore, the SAR is necessary to allow the creation of standard requirements to address the issues raised in the SAR so they will be evaluated by CMEP. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR (Project 2009-02) to address the issues raised by FERC. It is difficult to perceive how any additions or changes to the certification process could come up with a solution that would satisfy and sustain a mandatory and		

Organization	Yes or No	Question 5 Comment
enforceable status for those directives. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. The approach taken by the Standards Development Program is not to write new requirements that assess basic capabilities used to achieve performance measured through other requirements within the Reliability Standards. The SAR DT has researched the standards and concluded that other requirements do not presently exist to adequately cover the issues raised in the SAR. This SAR is the logical place and method for starting this process.		
MRO NERC Standards Review Subcommittee	No	Are the above metrics for the functions of Alarming, Telemetry, and Network analysis? A metrics is simple standard of measure. MRO NSRS understands that a metrics can be used in a measurement of a quantitative action, but how it would be used during "current operations" is not apparent. Perhaps this SAR should be more System Operator training based. If metrics were to be developed, any requirements created to impose metrics should allow for exceptions for extended outages of equipment for uncontrollable reasons. As written in the recommendation report, an outage on a real time tool for as short as a few hours could create significant non-compliance events, while not having any impact to the reliability of the system.
Response: Yes, these metrics are for the identified functions. An entity could have a training program but you could be missing essential functions. The wording of the SAR has been revised to show that any performance metrics would have to be vetted by the industry as part of the standards comment process.		
IRC Standards Review Committee	No	Metrics of tool performance may sound like a great idea, however such standards will unintentionally create a environment where tool characteristics become a goal unto itself, as opposed to an environment where ensuring transmission system reliability is the goal.NERC standards should be written to drive proper behavior and stipulate specific performance level of an entity to perform the tasks associated with the function for which it is registered. Those standards do not excuse that entity because the primary tool the entity uses is not available. Today's standards impose an implied obligation to have redundant / back-up tools to ensure that system reliability is maintained, regardless of tool's capability and availability in use. Tool metrics will create needless penalties, and are not drivers for proper behavior to ensure reliability. If a tool does not perform as this proposed SAR mandates, then the entity will be assessed non-compliant EVEN THOUGH the entity is meeting the primary goal of maintaining reliability. Tool unavailability is not the same as transmission performance problems. Bad or malfunctioning tools, in themselves, do not equate to a bad behavior or system performance. The IRC would also note that there are currently requirements to ensure that tools are maintained and properly managed (see CIP-007 and IRO-002 R9). This suffices to ensure that the responsible entity has the needed tool capability to perform its tasks.
ISO New England	No	Metrics of tool performance may sound like a great idea, however such standards will create a environment where tool

Organization	Yes or No	Question 5 Comment
Inc.		characteristics become a goal unto itself, as opposed to an environment where ensuring transmission system reliability is the goal.NERC standards should be written to drive proper behavior and stipulate specific performance level of an entity to perform the tasks associated with the function it registers as. Those standards do not excuse that entity because the primary tool the entity uses is not available. Today's standards impose an implied obligation to have redundant / back-up tools to ensure that system reliability is maintained, regardless of tool's capability and availability in use. Tool metrics will create needless penalties, and are not drivers for proper behavior to ensure reliability. If a tool does not perform as this proposed SAR mandates, then the entity will be assessed non-compliant EVEN THOUGH the entity is meeting the primary goal of maintaining reliability. Tool unavailability is not the same as transmission performance problems. Bad tools do not equate to a bad behavior or system performance. The SRC would also note that there are currently requirements to ensure that tools are maintained and properly managed (see CIP-007 and IRO-002 R9). This suffices to ensure that the responsible entity has the needed tool capability to perform its tasks.
IESO	No	NERC standards should be written to drive proper behavior and stipulate specific performance level of an entity to perform the tasks associated with the function it registers as. Such standards should not excuse that entity for non-compliant because the primary tool the entity uses is not available. Today's standards impose an implied obligation to have redundant / back-up tools to ensure that system reliability is maintained, regardless of tool's capability and availability. Tool metrics will create unnecessary requirements and penalties, and are not drivers for proper behavior to ensure reliability. If a tool does not perform the requirements that this proposed SAR mandates, then the entity will be assessed non-compliant even though the entity may be meeting the primary goal of maintaining reliability. We would also note that there are currently requirements to ensure that tools are maintained and properly managed (see CIP-007 and IRO-002 R9). This suffices to ensure that the responsible entity has the needed tool capability to perform its tasks.
Response: The loss of functionality could result in lack of adequate situational awareness. Metrics are needed to measure the performance and availability of those functionalities required to maintain BES reliability. CIP standards refer to critical assets at a system level while this SAR is meant to apply to the functionality described within the SAR. IRO-002 only applies to the Reliability Coordinator and tools while this SAR is meant to apply to additional entities and functionality.		
Southern Company	No	Availability and quality would be acceptable measureable metrics.Change management, maintenance coordination, and failure notification are processes and would have to be measured through documentation.
Response: The SAR has been changed to address this comment.		
FMPA	No	The proposed metrics are primarily very IT system focused metrics that may not be directly correlated with the reliability of the Bulk Electric System. The metrics ought to be focused more on what is important to reliable operations, such as accuracy of information, timeliness of information, etc. If you think of it, in order to have accurate and timely information, an IT systems will need to be

Organization	Yes or No	Question 5 Comment
		available, maintenance will have to have been coordinated, etc. The metrics proposed lean towards "how" and not "what".
Hydro One	No	One thing not indicated under performance metrics is actual performance i.e. alarm bursts, state estimator solve time or frequency of run, contingency analysis completeion time. If a SE only runs every 30min and takes 10min to solve how effective is it?
Response: The SAR does not mention specific metrics. The SAR has been revised to specify that any metrics will be vetted by the industry through the standards comment process.		
American Transmission Company	No	If this SAR is continued then the team needs to provide more information about the proposed performance metrics. (i.e. Definition(s), Calculation(s), Exclusion(s) and Goal(s)) In addition, the team should gather and provide information that can support the establishment of a minimum performance level. Setting a performance level will require strong technical support.
Oncor Electric Delivery	No	"Quality" should not be included. "Quality" is fundamentally subjective and cannot be measured
Exelon; ComEd, PECO and Exelon Generation	No	Exelon agrees performance metrics are important but we seek clarification concerning how quality, maintenance coordination, failure notification and especially change management are to be measured.
NERC RTOSDT	Yes	The RTOSDT agrees that a set of metrics is useful. Further, the RTOSDT believes that NERC must grapple with the concept that no information system is perfect. That is, requirements that involve information systems should only specify a "designed" level of performance, not the actual level of performance. It is nonproductive to investigate and fine an entity for failing to have two scans of an RTU, for example. The intent of a requirement related to information systems should always allow for reasonable failover times if redundancy is required and should allow for something less than 6 sigma performance, especially considering that communication networks outside of the control of reliability entities may have at best 2 sigma performance.
Alberta Electric System Operator	Yes	Yes, as long as metrics for "availability" is sufficiently defined and would also include "response".
South Carolina Electric and Gas	Yes	While we agree that the performance metrics should be part of the Standard, these metrics must allow for some level of equipment failure, communication failure, etc. and should not be a 100% performance requirement.
Response: The SAR has been revised to specify that any metrics will be vetted by the industry through the standards comment process.		

Organization	Yes or No	Question 5 Comment
CenterPoint Energy	No	See response to Q1.
Kansas City Power & Light	No	See response to question #1.
Response: Please see response to question 1 comments.		
American Electric Power	No	AEP believes that these actions are largely covered in the existing standards, including those shown previously (Table 1) in the related SAR functions format. Repetition of requirements across multiple standards may create ambiguity if alternative requirements or methods are defined from one to the other. It also establishes the possibility of compounding violations for a single infraction. To the extent that new requirements are needed to address operational gaps, these could be made in the next revision of the applicable existing standards.In any case, if this SAR proceeds, it must be limited to the "what" issues of "availability" and "quality", and NOT on the "How" issues of "change management", "maintenance coordination", and "failure notification."
Response: Please see responses to previous AEP comments.		
Xcel Energy	No	Any requirements created to impose metrics should allow for exceptions for extended outages of equipment for uncontrollable reasons. As written in the recommendation report, an outage on a real time tool for as short as a few hours could create significant non-compliance events, while not having any impact to the reliability of the system.
Response: The SAR has been revised to specify that any metrics will be vetted by the industry through the standards comment process. The SAR is not the recommendation report – an eventual SDT would be bound by the language of the SAR. The loss of functionality could result in lack of adequate situational awareness.		
City of Tallahassee	No	The SAR identifies 2 performance metrics, Availability and Quality. The remaining three functions are not metrics; they will be requirements to ensure the entities have them. The use of metrics for enforcement will become contentious. If I say I am sending data to the RC over my data link, but he says he is not getting it, who gets charged with the non-availability or reduced quality? If the problem is with a third party communication (Sprint, AT&T, etc) why should I get penalized for the "network" failure? There are too many things beyond the control of the entity to make it a "mandatory and enforceable" metric.
Response: The SAR has been changed to address this comment. An entity should be able to prove whether they sent the data and that will determine who is responsible.		

Organization	Yes or No	Question 5 Comment
Contracts with the 3rd party vendors should handle issues such as network failures. Someone has to bear the accountability for failures. The SAR has been revised to specify that any metrics will be vetted by the industry through the standards comment process.		
Duke Energy	No	These are good metrics, but they don't belong in a reliability standard. Performance metrics should be implemented and enforced as part of the certification process.
Response: Certification is a one time process. New certification criteria do not apply to entities that have already been certified. There is no re-certification process nor are there any plans that the SAR DT is aware of to expand the certification process to include re-certification. Certification only proves that an entity had the functionality at a single point in time. There is no operational history associated with certification; therefore, certification criteria that deal with Real-time operations or data are only evaluated by the certification team to determine if the entity has adequate functionality to go operational. Certification relies on the Compliance Monitoring and Enforcement Program (CMEP) to prove compliance for this functionality on an on-going basis. However, CMEP can only evaluate compliance to requirements defined in the Reliability Standards. Therefore, the SAR is necessary to allow the creation of standard requirements to address the issues raised in the SAR so they will be evaluated by CMEP. Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR (Project 2009-02) to address the issues raised by FERC. It is difficult to perceive how any additions or changes to the certification process could come up with a solution that would satisfy and sustain a mandatory and enforceable status for those directives. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives. This SAR is the logical place and method for starting this process.		
NorthWestern Energy	No	Northwestern Energy agrees with the performance metrics; however the whole set will be applicable only for alarming and telemetry purposes. Furthermore, the metrics need to be tested and evaluated before a standard can be requested.
Response: The intent of the SAR is that performance metrics are applicable to all functionality specified in the SAR. The SAR has been revised to specify that any metrics will be vetted by the industry through the standards comment process. The eventual SDT has the flexibility to ask that any standard or standard revision go through a field test prior to implementation. Any field testing would be appropriate after the requirements have been drafted and prior to implementation.		
Pugets Sound Energy	No	Availability and quality appear to be performance metrics. Change management, maintenance coordination, and failure notification do not seem to be performance metrics as stated. These may also overlap significantly with the CIP standards and should be aligned effectively.

Organization	Yes or No	Question 5 Comment
Response: The SAR has been changed to address this comment. CIP standards refer to critical assets at a system level while this SAR is meant to apply to the functionality described within the SAR.		
Utility Services LLC	No	
Response: The SAR DT is unable to respond since you didn't include any specific reasons for your disagreement. In the future, please provide specifics so that the SAR DT can adequately respond to your concerns.		
WECC Reliability Coordination	Yes	The word quality needs to be clearly defined and measurable.
Response: The SAR wording has been revised and 'quality' is no longer used.		
Manitoba Hydro	Yes	Manitoba Hydro agrees that this is the correct set of metrics; however the definition and measures defined in the Standard will have to be very specific and defendable in terms of improving reliability.
Response: The SAR DT agrees.		
Midwest ISO	Yes	We largely agree with the need for the performance metrics; however, we caution the drafting team to avoid duplicating already existing similar requirements. IRO-002 R9 already requires the RC to have approval for tool outages. CIP-007 already requires a change management process.
Response: CIP standards refer to critical assets at a system level while this SAR is meant to apply to the functionality described within the SAR. IRO-002 only applies to the Reliability Coordinator and tools while this SAR is meant to apply to additional entities and functionality.		
Ameren	Yes	
Con Edison System Operation	Yes	
Consumers Energy Company	Yes	

Organization	Yes or No	Question 5 Comment
ReliabilityFirst Corporation	Yes	
Edward Stein (self)	Yes	
PacifiCorp	Yes	
Bonneville Power Administration	Yes	
FirstEnergy	Yes	
Electric Market Policy	Yes	
Public Service Enterprise Group Companies	Yes	
Response: Thank you for your response.		

6. The SAR proposes to re-define Real-time. Do you agree that a new definition is needed? If not, please state specific reasons why not. If possible, specific suggested wording for a new definition would be appreciated.

Summary Consideration: Due to the industry comments received, the SAR DT has decided to delete the re-definition of Real-time from the SAR.

Organization	Yes or No	Question 6 Comment
Public Service Enterprise Group Companies	No	If "real-time" is redefined in the NERC glossary, it will be necessary to analyze the impact of this definitional change in each of the over 100 usages of this term throughout the full body of standards. If there is a particular concern about the speed/accuracy of "real-time" for this standard, then the specific requirement should be specified in this standard and not as a general definitional change.
SERC OC Standards Review Group	No	NERC should proceed only with extreme caution when "redefining" a commonly understood industry term. If there is a need to define a new concept that is somewhat close to the meaning of Real-time, NERC should label that concept something other than Real-time. Because the term "Real-time" is commonly understood in the industry, the definition for Real-time in the NERC Glossary could be deleted. As auditing staff attempts to assess compliance with requirements during a future audit, it should not have to determine the vintage of a definition that helps explain the intent of a requirement.
Entergy Services	No	Entergy supports the SERC OC comments.
IRC Standards Review Committee	No	This proposal will more likely cause unintended consequences. The SAR requestor states that the redefinition is needed because of inherent time-delays in data. The outcome of a strict definition could be that all data must be sampled at the same universal time. The result of such a noble idea would be to impose unjustified costs on every entity in North America. These costs will result because not every point can be obtained at the exact same time unless the requesting entity has a huge capability to gather data simultaneously. A likely result of such standards will be unbundling responsibility into smaller entities. That in turn will result in less than wide-area analysis. That in turn will result in a less reliable bulk power system.
ISO New England Inc.	No	This proposal will more likely cause unintended consequences. The SAR requestor states that the redefinition is needed because of inherent time-delays in data. The outcome of a strict definition could be that all data must be sampled at the same universal time. The result of such a noble idea would be to impose unjustified costs on every entity in North America. These costs will result because not every point can be obtained at the exact same time unless the requesting entity has a huge capability to gather data simultaneously. A likely result of such standards will be unbundling responsibility into smaller entities. That in turn will

Organization	Yes or No	Question 6 Comment
		result in less than wide-area analysis. That in turn will result in a less reliable bulk power system.
Southern Company	No	If a NERC Glossary term used in other standards is re-defined than the meaning of those standards has been changed without revision. The IRO standards use real-time as a description of a planning horizon or describing the data being used. Personnel operating the bulk power system understand that real-time data can be several seconds to several minutes old. The team may want to define the limits of near real-time data.
Hydro One	No	It is a good discussion point but it is splitting hairs a bit. Real Time is what you see now whether it took 5 minutes to get all the information or SE to solve. If the concept is to define how long it takes to refresh the data i.e. a 2 second refresh then that will drive home performance.
Con Edison System Operation	No	Changing the definition would be confusing. Adding a new term or making people become familair with using the "real time" term and another term such as "future time" would seem to be logical also.
IESO	No	This proposal will more likely cause unintended consequences. The SAR suggests that a redefinition is needed because of inherent time-delays in data. The outcome of a strict definition could be that all data must be sampled at the same universal time. The result of such a noble idea would be to impose unjustified costs on every entity in North America. These costs will result because not every point can be obtained at the exact same time unless the requesting entity has a huge capability to gather data simultaneously. A likely result of such standards will be smaller entities. That in turn will result in less than wide-area analysis. That in turn will result in a less reliable bulk power system. Real time operation is generally understood to be now and the next several minutes up to an hour. Any attempt to redefine the term Real Time to suit the purpose of tool characteristics or requirements will introduce problems or serious implications to the requirements governing real time operations.
Edward Stein (self)	No	Wordsmithing the definition of real time is a huge waste of (real) time. Everyone knows that real time data is between two and five seconds old (maybe even longer) depending on the scan rate. There has been some type of sabotage reporting rule or requirement for over 30 years because it was the sexy and politically correct thing to do even though there was no way that a System Operator, with his office in the middle of a corn field, knew if the line trip was due to sabotage or not. Even when the troubleman arrived at the scene of the outage, he still may not be able to determine if the tower fell down because it was a sabotage event or a local farmer removing some of the tower's bracing in order to use the bracing to hold up his corn crib.
MRO NERC Standards Review Subcommittee	No	The current definition as listed in the NERC glossary is adequate. Real-Time is an understood concept within the industry.
American Electric Power	No	Real-time is a precisely NERC defined term. In addition the Real-time term is highly integrated in the existing standards. Re-defining the term could have a significant impact on a wide-range of existing standards.

Organization	Yes or No	Question 6 Comment
Midwest ISO	No	There does not appear to be any compelling reason to change the definition. It is likely any changes will only cause confusion.
RRI Energy	No	I was unable from the SAR to understand why their was a need to redefine Real-time.
CenterPoint Energy	No	The current definition is sufficient. Any inherent time delay involved in the acquisition and dissemination of data to system operation personnel is understood. While that delay should be minimized, there are technical and financial limits to what can be done.
ReliabilityFirst Corporation	No	I do not think a new defintion is needed.
Exelon; ComEd, PECO and Exelon Generation	No	Exelon does not endorse a re-definition of Real-time.
Xcel Energy	No	
Utility Services LLC	No	
Alberta Electric System Operator	No	
American Transmission Company		A new definition will likely be needed if this project moves into a standards development phase; otherwise the existing definition may be suitable. (The certification / re-certification may not need to define Real-time but only identify minimum tools required for certification.)
Response: The SAR has been revised and the re-definition of Real-time has been deleted due to industry comments on this topic.		
Northeast Power Coordinating Council	Yes	NPCC agrees that the current definition that exists in the NERC Glossary of Terms where Real-Time is defined as “Present time as opposed to future time” is inadequate and needs to be redefined. Suggested rewording is: Real-time: 1. Existing or presently occurring. 2. In an information gathering or analysis environment, real time data and a time window allowed for its processing.
Response: Other commenters pointed out the far reaching effects of changing this definition. The SAR DT has discussed this matter and decided that a new		

Organization	Yes or No	Question 6 Comment
definition is not required for this SAR. The re-definition of Real-time has been deleted from the SAR.		
FirstEnergy	Yes	We agree with the SAR's recommendation to revisit the definition of Real-time. However, if revised, the SDT should carefully consider any unintended impacts a change in definition may have on other existing reliability standards that reference the existing term.
FMPA	Yes	The definition would go hand in hand with a key metric for the standard that probably ought to be added, timeliness of information. E.g., if a Transmission Owner is using a 10 minute rating for a line and it takes 5 minutes for the operator to even receive information that the line is beyond its normal rating, then the operator really only has about 5 minutes to make a decision and take action to reduce the loading on the line. Obviously, the more time the operator has to make decisions and take action in a deliberate fashion, the more reliable the power system. One key way to do this is to define "real-time" with a reasonable time delay maybe 3 minutes.
Manitoba Hydro	Yes	Present or current time seem to mean the same. Suggested definition: The actual time at which an event occurs.
South Carolina Electric and Gas	Yes	However, it should be noted in the Standard that there is an inherent delay in data acquistion, data processing, and data analysis. As such, things are not measured or calculated in real time per se, but are done as close to real time as practically possible. It should also be noted that caution should be used if this term is re-defined as this is a commonly used and understood industry term.
Pugets Sound Energy	Yes	Suggest aligning with the Real Time Operations Time Horizon for which each requirement is assessed relative to a violation. This would ensure no confusion.
NERC RTOSDT	Yes	The RTOSDT takes no position on this at this time. However, unintended consequences may occur. This needs a lot more explanation to the industry.
Ameren	Yes	Clarification of this term could be beneficial. “Real Time” can indicate significantly different time periods depending on the point of view. With the advent of new technologies such as phasor measurement units with a much higher sample rate, real time takes a very different meaning as compared to the traditional “seconds” based sample rates utilized in most current EMS/SCADA systems.
NorthWestern Energy	Yes	Northwestern Energy believes that a new definition which explains more about what is expected out of “Real Time” is needed. The current definition is vague and broad, a more defined timeframe would provide better operating criteria and guidelines to Reliability Coordinators, Transmission Operators and Balancing Authorities

Organization	Yes or No	Question 6 Comment
NERC RTOSDT	Yes	The RTOSDT takes no position on this at this time. However, unintended consequences may occur. This needs a lot more explanation to the industry.
Oncor Electric Delivery	Yes	There will be an inherent delay in the processing of applications, processing of data and the identification of contingency measures related to real time analysis for as much as 15 minutes. On the other hand, typical telemetry updates of data to the user display are around 2-4 seconds.
Consumers Energy Company	Yes	The existing definition is not useful.
Kansas City Power & Light	Yes	
Duke Energy	Yes	
City of Tallahassee	Yes	
PacifiCorp	Yes	
Bonneville Power Administration	Yes	
WECC Reliability Coordination	Yes	
Response: Other commenters pointed out the far reaching effects of changing this definition. The SAR DT has discussed this matter and decided that a new definition is not required for this SAR. The re-definition of Real-time has been deleted from the SAR.		

7. The SAR includes the Generator Operator (GOP) as a possible applicable entity. Do you agree that a potential Standards Drafting Team should have the freedom to consider the GOP as an applicable entity? If not, please state specific reasons why not.

Summary Consideration: The SAR DT understands that not all elements of the SAR would apply to a Generator Operator. By checking the box for Generator Operator, the SAR DT is providing the eventual SDT with the flexibility to include a Generator Operator as an applicable entity if necessary. If the Generator Operator isn't checked off as an applicable entity in the SAR, the SDT does not have the flexibility to add them back in later if they are needed. However, if the Generator Operator is cited in the SAR and the SDT doesn't feel that they are needed in a standard, they can leave them off the list of applicable entities. For these reasons, the SAR DT feels that Generator Operators should continue to be listed as potential applicable entities in the SAR.

If the eventual SDT decides to include the Generator Operator, they will constrain the applicability to only those items that directly apply. Codes and statutes will be adhered to in any eventual standard.

Organization	Yes or No	Question 7 Comment
Electric Market Policy	No	Most Transmission Operators (TOP) and Reliability Coordinators (RC) typically operate out of one control facility with information that expands beyond that provided by facilities under their direct control. There are protocols for coordinating operations of multiple facilities operated by different entities. Most Generator Operators (GOP) operate out a control room that contains information ONLY on facilities directly under that GOP's control. They are no protocols for coordinated operation of generating facilities. GOPs are to follow directives of the TOP and RC. Also, the federal/state codes/standards of conduct may prohibit dissemination of certain information between the RC/TOP and GOP entities. We strongly believe that placing new compliance requirements in this SAR on all generators is beyond the scope of what GOPs should be functionally doing in almost all generation locations on the bulk electric system and hence advancement of this standard with the inclusion in GOP applicability will actually create unnecessary complexity in operating the bulk electric system.
Ameren	No	It states that there would be a focus on Alarming to alert on events and conditions affecting the state of the BES, Telemetry to provide status and analog values in real time (status of what?), and Network Analysis for simulating impact of what-if events. For Alarming, what action would a GOP take in response to an alarm, that would be independent of what GOP would be directed to do by TO or BA or RC? GOP is already subject to plenty of other NERC Reliability Standards that state that the GOP has to do what the BA/TO/RC tell him/her to do in order to preserve the BES integrity. For Telemetry, regarding status (if assume of Transmission Components) inreal-time operation, doesn't that violate FERC Code of Conduct, since GOP is not supposed to know about Transmission information that may give him/her an advantage in the market? And as for Network Analysis, that has nothing to do with a GOP.

Organization	Yes or No	Question 7 Comment
Response: The SAR DT understands that not all elements of the SAR would apply to a Generator Operator. By checking the box for Generator Operator, the SAR DT is providing the eventual SDT with the flexibility to include a Generator Operator as an applicable entity if necessary. If the Generator Operator isn't checked off as an applicable entity in the SAR, the SDT does not have the flexibility to add them back in later if they are needed. However, if the Generator Operator is cited in the SAR and the SDT doesn't feel that they are needed in a standard, they can leave them off the list of applicable entities. For these reasons, the SAR DT feels that Generator Operators should continue to be listed as potential applicable entities in the SAR. If the eventual SDT decides to include the Generator Operator, they will constrain the applicability to only those items that directly apply. Codes and statutes will be adhered to in any eventual standard.		
Public Service Enterprise Group Companies	No	Generator Operators do not fit within the scope of this standard. They do not have direct involvement in the matters covered by this SAR. Any necessary GOP actions or requirements would be covered in the interconnection or operating agreements between generators and the applicable entities.
SERC OC Standards Review Group	No	If a need later develops to make the GOP applicable, then a SAR could be generated to cover the GOP at that time
Entergy Services	No	Entergy supports the SERC OC comments.
MRO NERC Standards Review Subcommittee	No	A GOP follows dispatch instructions from a BA or prior committed schedule and will be held accountable if those instructions are not followed. There is no need to have GOPs within this SAR.
FMPA	No	Why would a GOP have need for this? Most GOPs are radial to the interconnection point, so a contingency analysis will reveal nothing. The TOPs and RC will already be including the loss of generation or other contingencies in their contingency analysis. The only real involvement with the GOP is their metering and RTUs if the TOPs, BAs and RCs are depending on the GOPs information as data points in the control systems. There could be a requirement that the GOPs provide data to the TOPs / BAs / RCs through metering, RTUs and communication links to the TOPs / BAs / RCs criteria, but that should be the extent of what is required of GOPs, and, if that is a requirement of GOPs, then we would seriously need to consider LSEs and DPs as applicable entities to receive accurate load, losses and power factor information. This sort of requirement, however, probably belongs in the COM standards.
American Electric Power	No	AEP does not believe that it is necessary to include the GOP as an applicable function for this SAR, as data requirements are specified in existing standards. As mentioned in Item #1, using the NERC certification process of functional entities to ensure that the right tool set is in place and operating correctly is preferable to allowing, by administrative registration alone, to begin operating and then, afterwards, try to invoke standards to address operating issues that could have been avoided up-front.

Organization	Yes or No	Question 7 Comment
Oncor Electric Delivery	No	Generator Operators provide alarming and telemetry for their own facilities and only a small amount of this data is typically available to assist in determining the security of the bulk power system. In addition, Generator Operators do not normally perform network analysis.
Exelon; ComEd, PECO and Exelon Generation	No	Exelon sees no value in including the Generator Operator in the standard applicability. Data exchange and communication requirements are covered in other standards such as the COM and IRO standards. Additionally, RTO's, BA's and Transmission Owners and Operators typically specify in Interconnection Guidelines, Operating or Reliability Agreements and Manuals, what data must be shared between the Reliability Entities and the Generator Operators so as to support Real-time operational analysis.
RRI Energy	No	See previous comments.
Dynegy	No	The Generator Operator is not currently subject to this group of Standards. The Generator Operator should not be listed as a possible applicable entity without some technical justificatio from the SAR Drafting team.
South Carolina Electric and Gas	No	
Midwest ISO	No	There is no need to include the GOP. The GOP clearly has no need for network analysis capabilities.
Response: The SAR DT understands that not all elements of the SAR would apply to a Generator Operator. By checking the box for Generator Operator, the SAR DT is providing the eventual SDT with the flexibility to include a Generator Operator as an applicable entity if necessary. If the Generator Operator isn't checked off as an applicable entity in the SAR, the SDT does not have the flexibility to add them back in later if they are needed. However, if the Generator Operator is cited in the SAR and the SDT doesn't feel that they are needed in a standard, they can leave them off the list of applicable entities. For these reasons, the SAR DT feels that Generator Operators should continue to be listed as potential applicable entities in the SAR.		
IESO		This question is unclear because the GOP is an applicable entity for NERC standards. Does a GOP need to analyze the network performance? If that is the question, the answer is NO; a GOP needs only operate a generator, the TOP / RC must conduct network analyses.
IRC Standards Review Committee		This question is unclear because the GOP is an applicable entity for NERC standards. Does a GOP need to do Network Analysis? If that is the question, the answer is NO; a GOP must operate a Generator, the TOP / RC must do the transmission analysis.Equally inappropriate would be to impose a mandate that the analysis tools on nuclear units have the same characteristics as the analysis tools on a CT.
ISO New England		This question is unclear because the GOP is an applicable entity for NERC standards. Does a GOP need to do Network Analysis?

Organization	Yes or No	Question 7 Comment
Inc.		If that is the question, the answer is NO; a GOP must operate a Generator, the TOP / RC must do the transmission analysis.Equally inappropriate would be to impose a mandate that the analysis tools on nuclear units have the same characteristics as the analysis tools on a CT.
Response: If the eventual SDT decides to include the Generator Operator, they will constrain the applicability to only those items that directly apply. Codes and statutes will be adhered to in any eventual standard.		
Pugets Sound Energy	Yes	However, we suggest considering application of any of these standards is relative to the existance of a control center as defined or intended by the CIP standards. This would not impose an unnecessary burdan.
Response: If the eventual SDT decides to include the Generator Operator, they will constrain the applicability to only those items that directly apply.		
FirstEnergy	Yes	An SDT should always have the freedom to consider new or revised applicability in standards projects in an effort to enhance the Adequate Level of Reliability of the BES. However, in the case of this project, applicability to requirements related to real-time operating tools should only be considered for Generator Operators (GOP) with centrally located dispatch or control centers with control over multiple generation plants. The requirements must not apply to GOP located within a control room having responsibility for only a unit(s) located at a single plant location. Also, if the GOP is retained as a reliability function within the scope of this SAR, the SAR's Purpose statement should be revised to include a reference to and discussion regarding the intent of adding the GOP as an applicabe entity.Furthermore, there should be no expectation that a GOP would be performing network analysis of the BES and the standard(s) should be clear that those tools remain with the RC and TOP.
Response: If the eventual SDT decides to include the Generator Operator, they will constrain the applicability to only those items that directly apply.		
NorthWestern Energy	Yes	NorthWestern Energy agrees that a potential Standards Drafting Team should have the freedom to consider the GOP as an applicable entity. However, close consideration should be given to the NERC Functional Model to ensure that the focus of the proposed standard truly applies to a GOP or any NERC Registered Entity. Furthermore, the final decision on this matter should still reside with NERC.
Hydro One	Yes	A lack of situation awarness, alarms and telemetry that ends up with a generator(s) contingency will have an impact on the reliability of an area so it is as important.
Edward Stein (self)	Yes	Although these GOP requirements should be part of the interconnection agreement between the Generator and the Transmission Provider, it may be more straight forward to have these requirements addressed in this SAR.

Organization	Yes or No	Question 7 Comment
NERC RTOSDT	Yes	The RTOSDT can see no reason to preclude the adding of the GOP at the SDT phase of the project.
City of Tallahassee	Yes	Generator data is an important set of data for real time modeling.
ReliabilityFirst Corporation	Yes	
Manitoba Hydro	Yes	
Duke Energy	Yes	
Consumers Energy Company	Yes	
Kansas City Power & Light	Yes	
Northeast Power Coordinating Council	Yes	
Utility Services LLC	Yes	
Alberta Electric System Operator	Yes	
Con Edison System Operation	Yes	
WECC Reliability Coordination	Yes	

Organization	Yes or No	Question 7 Comment
Southern Company	Yes	
PacifiCorp	Yes	
Bonneville Power Administration	Yes	
Response: Thank you for your response.		

8. Do you believe the proposed requirements should reside in a reliability standard or should be addressed as part of the certification process?

Summary Consideration: According to the comments received, the industry was evenly split on this issue.

Certification is a one time process. New certification criteria do not apply to entities that have already been certified. There is no re-certification process nor are there any plans that the SAR DT is aware of to expand the certification process to include re-certification. Certification only proves that an entity had the functionality at a single point in time. There is no operational history associated with certification; therefore, certification criteria that deal with Real-time operations or data are only evaluated by the certification team to determine if the entity has adequate functionality to go operational. Certification relies on the Compliance Monitoring and Enforcement Program (CMEP) to prove compliance for this functionality on an on-going basis. However, CMEP can only evaluate compliance to requirements defined in the Reliability Standards. Therefore, the SAR is necessary to allow the creation of standard requirements to address the issues raised in the SAR so they will be evaluated by CMEP.

Furthermore, there are 2 directives in FERC Order 693 relating to tool capability that need to be addressed. The existing projects that would have handled these issues (Project 2006-02 for IRO-002 and Project 2007-03 for TOP-006) have clearly indicated that they expect this SAR (Project 2009-02) to address the issues raised by FERC. It is difficult to perceive how any additions or changes to the certification process could come up with a solution that would satisfy and sustain a mandatory and enforceable status for those directives. Therefore, this SAR needs to move forward or the existing projects need to take back the responsibility for addressing the directives.

The approach taken by the Standards Development Program is not to write new requirements that assess basic capabilities used to achieve performance measured through other requirements within the Reliability Standards. The SAR DT has researched the standards and concluded that other requirements do not presently exist to adequately cover the issues raised in the SAR.

This SAR is the logical place and method for starting this process.

Organization	Reliability Standard or Certification Process	Question 8 Comment
NERC RTOSDT	Certification Process	Discussions at the RTOSDT have generally yielded consensus that these are basically one-time requirements, at certification time, and which specify the "designed-in" level of performance, while not focusing on the actual performance in absolute terms. That is, any actual performance requirements should be statistically sound. For example, it is patently absurd to believe that BAL-005-0.1b R8, which requires ACE calculation at least every 6 seconds, is actually possible with real computer systems. On a design basis, this means that a hot backup with failover within a couple of minutes is required. On an actual performance basis, this is far better than the up-time

Organization	Reliability Standard or Certification Process	Question 8 Comment
		required of space shuttle computers. Something like 2 sigma or 3 sigma performance for actual results is quite possibly all that is needed for the uptime for these tools.
Electric Market Policy	Certification Process	
SERC OC Standards Review Group	Certification Process	First and foremost, the requirements developed as a part of this SAR must focus on capability, not specific technologies. The BES must not follow the path of the nuclear industry which suffers today from having specific technologies designated in the plant design basis. Technologies are progressing faster than a requirements process can follow. Embedding a specific tool in certification also creates measurement difficulty as the state of the art advances, which further supports our assertion that specifying capability rather than technology is the correct approach.
MRO NERC Standards Review Subcommittee	Certification Process	Please describe what the certification process is? Would this be for entities who wish to be registered as a BA, RC or TOP? Perhaps NERC could formulate a training program concerning these issues and give it to "all" entities to incorporate into their training programs. It would make a bigger impact vice having this SAR (and later proposed standard) be pushed around for many years before the Commission ever see it. If this is an Event recommendation, and it has taken 4 years to get a SAR, we have one slow process. Hire a contractor, put together a program based on the RTBPTF recommendations and allow All NERC Registered entities to train on it.
IRC Standards Review Committee	Certification Process	First of all, we do not agree with creating a standard for tool characteristics or performance levels. If monitoring, alarming and analysis capabilities of an entity need to be specified and complied with, then we'd suggest that the certification process be used with the certification scope and requirements so clearly stipulated that the entity must demonstrate it has acquired such capabilities to perform the assigned tasks. The capability requirements are "one of" assessment. As such, they should be a part of the certification process, not an on going assessment of proper behavior or performance level of an entity which is more suited in a standard.
Southern Company	Certification Process	These requirements need to be included in an entity's certification process that includes periodic re-certification. This would require entities to certify that they have the tools needed to perform these functions and mechanisms in place to continue to perform the functions.
American Transmission Company	Certification Process	and re-certification process

Organization	Reliability Standard or Certification Process	Question 8 Comment
CenterPoint Energy	Certification Process	See response to Q1.
American Electric Power	Certification Process	It is AEP's belief that that reliability issues that this SAR intends to address are not resulting from a void in the reliability standards, but instead in the current NERC functional entities certification processes. A participant should have, upfront, at least the tool set to operate at an adequate level. The certification process is the appropriate forum for checking the systems. Furthermore, the NERC functional entities certification process could provide periodic checks to maintain certification by ensuring that the tool set remains in place. The upfront verification becomes a must as one considers that potentially thousands of non-traditional generation facilities may be interconnected in the near term.
ReliabilityFirst Corporation	Certification Process	
Duke Energy	Certification Process	We believe that the high level requirements for functionality should be in the reliability standards, and that the certification process should contain performance metrics and procedures related to change management, maintenance coordination and failure notification. See response to question #1.
Entergy Services	Certification Process	Entergy supports the SERC OC comments.
Exelon; ComEd, PECO and Exelon Generation	Certification Process	Exelon believes the Certification Process as specified in the ROP, Organization Registration and Certification Manual, Appendix 5, would be the best way to verify that entities performing the reliability functions are adequately equipped to do so.
E. On U.S.	Certification Process	Certified entities have been determined as capable of meeting the all applicable requirements. A new standard setting forth requirements for the tools employed by registered entities to meet existing requirements is redundant. Moreover, having NERC establish either functional or technical specifications for real-time systems will stifle innovation and unnecessarily lead many entities, who are currently meeting existing requirements, to invest resources in altering and not necessarily improving their existing real-time tools. It is better to leave the development of functional and technical specifications of rapidly changing technology to buyers and responding vendors. A failure on the part of registered entities to employ adequate real-time systems will in all likelihood lead to non-compliance with one or more existing requirements. It is nonsensical to describe a system that enables its owner/operator to meet BES reliability requirements as in any way insufficient.

Organization	Reliability Standard or Certification Process	Question 8 Comment
RRI Energy	Certification Process	
ISO New England Inc.	Certification Process	First of all, we do not agree with creating a standard for tool characteristics or performance levels. If monitoring, alarming and analysis capabilities of an entity need to be specified and complied with, then we'd suggest that the certification process be used with the certification scope and requirements so clearly stipulated that the entity must demonstrate it has acquired such capabilities to perform the assigned tasks. The capability requirements are "one of" assessment. As such, they should be a part of the certification process, not an on going assessment of proper behavior or performance level of an entity which are is more suited in a standard.
New Brunswick System Operator	Certification Process	
IESO	Certification Process	First of all, we do not agree with creating a standard for tool characteristics or performance levels. If monitoring, alarming and analysis capabilities of an entity need to be specified and complied with, then we'd suggest that the certification process be used with the certification scope and requirements so clearly stipulated that the entity must demonstrate it has acquired such capabilities to perform the assigned tasks. The capability requirements are "one of" assessment. As such, they should be a part of the certification process, not an on going assessment of proper behavior or performance level of an entity which are more suited in a standard.
Northeast Power Coordinating Council	Reliability Standard	From the NERC Reliability Standards Development Procedure, "Reliability Standard" means a requirement to provide for reliable operation of the bulk power system??. The ideas proposed in this SAR meet that definition, and belong in a reliability standard. NPCC believes that the certification of a function is only a snapshot in time. With technology continuously changing, there needs to be a process that will continuously capture these changes. NPCC is of the opinion that the NERC Standards are living documents and are the best mechanism available to the industry for capturing these changes by the continuous updating of the standard's requirements included within.
Public Service Enterprise Group Companies	Reliability Standard	
Bonneville Power Administration	Reliability Standard	
FirstEnergy	Reliability Standard	

Organization	Reliability Standard or Certification Process	Question 8 Comment
WECC Reliability Coordination	Reliability Standard	
FMPA	Reliability Standard	
Edward Stein (self)	Reliability Standard	I am not sure what is meant by the certification process. I thought that the certification process was a one time deal. If the certification process is conducted annually, you may be able to not have this as a reliability standard. However if an entity loses their certification what happens to then and more important what happens to reliability.
Hydro One	Reliability Standard	
Manitoba Hydro	Reliability Standard	
Consumers Energy Company	Reliability Standard	If these requirements would reside in a certification process, they would be scrutinized only once ? during the certification process, and there would be no measurability of their ongoing presence, particularly with the demise of the Readiness Evaluation Program.
Con Edison System Operation	Reliability Standard	Reliability Standard. Not familiar with the Certication Process.
Alberta Electric System Operator	Reliability Standard	
NorthWestern Energy	Reliability Standard	Northwestern Energy would recommend putting it as a Reliability Standard only after it has been tested and proven to be effective, then the requirements can be recognized as a Reliability Standard.
Pugets Sound Energy	Reliability Standard	
Midwest ISO	Reliability Standard	The Midwest ISO believes the drafting team may need to develop both Reliability and Certification standards. Unfortunately, both options could not be selected.
Response: Thank you for your responses. Please see the summary consideration for question 8 for the SAR DT response.		

Organization	Reliability Standard or Certification Process	Question 8 Comment
MRO NERC Standards Review Subcommittee	Business Practice	Please describe what the certification process is? Would this be for entities who wish to be registered as a BA, RC or TOP? Perhaps NERC could formulate a training program concerning these issues and give it to "all" entities to incorporate into their training programs. It would make a bigger impact vice having this SAR (and later proposed standard) be pushed around for many years before the Commission ever see it. If this is an Event recommendation, and it has taken 4 years to get a SAR, we have one slow process. Hire a contractor, put together a program based on the RTBPTF recommendations and allow All NERC Registered entities to train on it.
Response: MRO appears to have submitted 2 identical comments – one for certification and 1 for business practices. The SAR DT is assuming that certification is the true response as that is in line with the question posed.		
NorthWestern Energy	Business Practice	Northwestern Energy would recommend implementing this only for RCs to test the feasibility and functionality of the established guidelines on a trial period. If the guidelines prove to be effective then it can be implemented for TOPs and BAs with detailed operational guidelines.
Response: The eventual SDT has the flexibility to ask that any standard or standard revision go through a field test prior to implementation. The eventual SDT could structure the field test to include a particular functional entity or all potentially affected functional entities.		
Utility Services LLC		neither
Kansas City Power & Light		Neither.
City of Tallahassee		While I still disagree with a need for it to be a standard, IF it is moved to the Certification process, how will you monitor it on an ongoing basis? How will you ensure the currently registered entities have the tools?
Ameren		Whether the eventual approach is determined to be new or updated Reliability Standards or changes to the Certification Process the decision should be left up to the SAR drafting team.
South Carolina Electric and Gas		The difference between a reliability standard and certification process needs to be clarified by NERC before this question can be answered.

Organization	Reliability Standard or Certification Process	Question 8 Comment
Response: Thank you for your responses. Please see the summary consideration for question 8 for the SAR DT response.		

9. If you are aware of the need for a regional variance or business practice that we should consider with this SAR, please identify it here.

Summary Consideration: No regional variances or specific business practices have been identified at this time.

Organization	Regional Variance or Business Practice	Question 9 Comment
Public Service Enterprise Group Companies		While PSEG is not aware of the specific need for a regional variance or business practice, the SAR should specify that the drafting team should consider and give deference to the long-standing requirements of RTOs and ISOs (as RC, BA, and TOP) that have maintained exemplary high levels of reliability in their areas. These RTOs and ISOs have a primary obligation to maintain reliability, and through extensive experience have mandated what real time tools are necessary to this end in their areas. For instance, PJM Manual 1 Control Center and Data Exchange Requirements provides examples of many existing requirements for real time tools, including telemetry, alarms, assurance of date integrity, etc. The drafting team should be encouraged to make use of these existing resources and ensure that the new standard does not conflict with what has proven in practice to work well.
NERC RTOSDT		N/A
Northeast Power Coordinating Council		It is to too early in the process to identify whether there will be a need for a regional variance or business practice to consider with this SAR. NPCC believes that it is premature to either determine or conclude that an impact will exist in the future.
SERC OC Standards Review Group		Neither is applicable. The reliability of the BES is only as good as the weakest link, therefore, no variances should be allowed.
FirstEnergy		We are not aware of any.
IRC Standards Review Committee		None
WECC Reliability Coordination		none at this time

Organization	Regional Variance or Business Practice	Question 9 Comment
FMPA		Not aware of any.
American Transmission Company		Not aware of anything that applies.
Edward Stein (self)		There shouldn't be any.
American Electric Power		There should not be differences in the required tool sets, based on regional differences, if the requirements stay at the “what” level.
Duke Energy		None
Con Edison System Operation		No comment.
Entergy Services		Entergy supports the SERC OC comments.
Exelon; ComEd, PECO and Exelon Generation		Not aware of the need for either.
Ameren		No comments
New Brunswick System Operator		No comment
IESO		No
Kansas City Power & Light		None.
Response: Thank you for your response.		

10. If you have any other comments on this SAR that you have not already provided in response to the prior questions, please provide them here.

Summary Consideration: The SAR has been revised to specify that any metrics will be vetted by the industry through the standards comment process. The SAR emphasizes functionality and not tools. The SAR deals only with 'what' and not 'how'.

Organization	Question 10 Comment
NERC RTOSDT	FERC Order 693, paragraphs 1659 to 1665, mandate the addition of a requirement in the TOP standards for a minimum set of analytical tools for carrying out TOP reliability functions and that relay closing phase angle data be presented to operations staff: Tools and capabilities are a very broad, yet specialized topic that demands industry input of a more focused nature than that possible in current Project 2007-03 (Real-time Operations) upon which the RTOSDT is working. The RTOSDT believes that the Subject Matter Experts (SMEs) that will be gathered in support of this SAR will be better qualified to address this issue, and to elicit industry input, than the operational SMEs supporting Project 2007-03. The RTOSDT is basing its response to FERC for this matter on this item being vetted and supported by Project 2009-02 as appropriate.
Response: The SAR DT appreciates your support and will continue to work to get the SAR approved which will address the issues raised in your comment. However, the SAR emphasizes functionality as opposed to specific tools. This SAR does not handle data so the comment on relay closing phase angle data is not being considered by the SAR DT and should be handled within your Project 2007-03.	
Northeast Power Coordinating Council	NPCC believes that this SAR serves as only a beginning for addressing Real Time Tools and should not be construed as all encompassing. What is the intention for addressing the input devices for these tools (i.e.--current transformers, potential devices, transducers)?
Response: The SAR DT agrees that this SAR should not be considered as all encompassing. It is not the intent of this SAR to address input devices.	
Bonneville Power Administration	The Final report from the given link is missing the detailed data sections (everything after the introductions page 36).This requires minimum standards for tools - this is GOOD to have and the tools should be used. There should be a recognition of the effort to keep some of the tools working. Some of the requirements are overly prescriptive - not necessary with respect to external Interchange data. Not enough discrimination between primary entity EMS communication and ICCP exchange with external entities, which are mostly indirect reliability issues.

Organization	Question 10 Comment
	There should be allowance for maintenance of the equipment: primary and secondary. The ICCP is sometimes handled over communications paths not under maintenance control of the TOP/BA. Sometimes equipment may break in unusual ways and take longer to diagnose and repair than the proposed criteria allowances would allow. Diagnosing the state estimator failure takes more time than the proposed criteria allows. The criteria is unrealistic in not recognizing that, as well as the orders of magnitude for a number of additional telemetered points required to reduce it. It's good to have frequent solutions, but it's not necessary to "measure it" and to penalize if it doesn't while diagnosing the trouble. This requires an increase in 24/7 staff to manage to the proposed criteria, but still takes time to diagnose/correct failed solutions. The contingency criteria is dependent on the state estimator, so there could be double jeopardy on proposed violations.
Response: The RTBPTF Report is available on the NERC web site. **(http://www.nerc.com/filez/rtbptf.html)** Maintainability is included as a part of the SAR. The SAR is not the RTBPTF Report. It is a standalone document. There are no requirements at this time; they would be developed by the eventual SDT. At the SAR level, the SAR DT does not feel that there should be any discrimination. The eventual SDT should have the freedom to discriminate or not to discriminate as needed. The eventual SDT would have the capability to decide on allowances for maintenance. Someone is always responsible. This is normally handled in contracts. The eventual SDT would have the capability to decide on equipment repair criteria. There is no criterion at this time. This is a standalone SAR and is not the RTBPTF Report. The eventual SDT is bound by the language of the SAR and not what was in the Report. The SAR has been revised to specify that any eventual metrics will be vetted by the industry through the standards comment process. Furthermore, the SAR does not mention any tools but emphasizes functionality.	
FirstEnergy	1. This SAR should be careful to avoid development of redundant requirements that describe the tasks performed by responsible entities that rely upon the real-time tools. There are a number of existing standards with requirements already aimed at addressing alarming, telemetry, and network analysis within the BAL, COM, IRO, and TOP family of standards. To the extent the drafting team considers putting end-result expectations within new real-time tools standard(s) as proposed by this SAR, these existing requirements should also be reviewed to consider moving them to the new standard(s). Alternatively, in lieu of creating new standard(s), the existing standards mentioned above could be considered for revision to describe the minimum technical expectations and management of the real-time tools as proposed by this SAR. 2. This SAR appears to be sharply focused on addressing aspects of alarming, telemetry and network analysis. The SAR DT should consider the May 5, 2009 report provided by the Chair of the NERC Operating Committee (OC), Gayle Mayo, titled "Operating Committee

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	Report to Board of Trustees Technology Committee: Management of NERC Reliability Tools". The OC's report describes real-time tools that NERC manages that are relied upon by registered entities and the potential conflict of NERC managing the tools while also having responsibility for enforcing compliance enabled by the tools. The interim proposed solution recommended to establish a joint industry/NERC management group as an independent arm of NERC reporting to the NERC BoT. To the extent any of the reliability tools described in the OC's report have bearing on the focus of this SAR, it may be necessary to include requirements within the proposed standard(s) to adequately cover the OC's vision and responsibility of the proposed independent real-time tools management group. Additionally, the SAR DT should consider if applicability changes are needed within the proposed standard(s) to address the OC's proposal.
Response: 1. The SAR has been revised to allow for the possibility of revising existing standards. 2. The SAR can't deal with proposed changes such as mentioned here. It can only deal with what is in place at this time. Any future changes to management of tools at NERC would need to be handled when a final determination is made.	
MRO NERC Standards Review Subcommittee	Use of industry groups such as the Transmission Owners and Operators Forum, and EPRI should be considered in development of best practices, guidelines, and tools for use in real time operations.
Xcel Energy	Use of industry groups such as the Transmission Owners and Operators Forum, and EPRI should be considered in development of best practices and tools for use in real time operations.
Response: The Transmission Owners and Operators Forum (TOOF) is a private group with confidential documents. TOOF can always submit comments as a group for consideration in the standards development process. EPRI reports are generally private documents for members only. The SDT would consider any inputs available to them.	
IRC Standards Review Committee	There are numerous existing requirements for the RC, TOP, and BA to perform analysis and studies. Having these studies performed with what works best for the individual entity is important for reliability, not how they performed the study and analysis. The goal of a solid NERC Standard should be focused on the outcome.
ISO New England Inc.	There are numerous existing requirements for the RC, TOP, and BA to perform analysis and studies. Having these studies performed with what works best for the individual entity is important for reliability, not how they performed the study and analysis. The goal of a solid NERC Standard should be focused on the outcome.
IESO	There already exist a number of standard requirements for the RC, TOP, and BA to conduct analyses and studies. Having these studies performed with what works best for the individual entity is essential for reliability, not how they performed the study and analysis.
Response: The SAR DT agrees and this is why the SAR deals only with 'what' and not 'how'.	

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WECC Reliability Coordination	We have an overall concern that an implementation process needs to be coordinated to minimize the impact to organizations that do not have the current resources or dollars to immediately implement the proposed changes. Also, it appears the SAR requires specific procedures rather than guidelines for event mitigtion, which does not provide the operator or RC leaway to assess all the variabiles in the interconnection. The role and responsibility for each requirement also needs to be clearly defined.
Response: The standards development process mandates that an Implementation Plan be filed as part of any standard development. The eventual SDT would decide on the exact implementation timeframes. The SAR does not mention event mitigation. The title and wording of the SAR has been revised to provide greater clarity as to the intent of the SAR DT. The eventual SDT would define roles and responsibilities consistent with the approved Functional Model.	
FMPA	Please do not confuse the roles of TOPs, BAs and RCs. A BA should not be required to have a contingency analysis tool of transmission lines since that is not their function. A TOP should not be required to monitor supply and demand balance since that is not their function. Clearly delineate what is required of each entity.
Alberta Electric System Operator	Should consideration of applicability to the network analysis requirements be given to those entities that have a minimal impact on the BES?
Response: The eventual SDT would decide what entities are applicable for specific requirements.	
City of Tallahassee	- I must reiterate that a fully functional Network Analysis tool (Contingency Analysis) is a “Best Practice” and not a requirement for many TO’s and BA’s. I know of a case where the TO is not allowed to vote on Standard development because they do not own enough miles of transmission lines, but they would have to have a CA program by this SAR. - The following comments are directly related to the Real-Time Tools Survey Analysis and Recommendations (Final Report) but do apply to the SAR. - Too wide of a “wide area view” may be detrimental to many TO/BA’s also. If the RC is watching over the entire RC area, and the TO/BA is watching over a smaller portion with a large portion equivalized, and the RC’s model goes down because of bad telemetry in another part of the RC area, the TO/BA’s model may still be functional because it is not reliant upon the bad data for proper operation. - On page 27 of the Executive Summary, the RTBPTF identifies the need to address the definition of the Bulk Electric System. This should be done before any additional standards requiring the use of the definition are allowed to proceed. There is still not a good understanding of what it needs to be to ensure that it is reliable. Lets get this hurdle crossed before we make more references to it. - On page 17, Situational Awareness Practices: The first sentence “The task force concludes that documented conservative operations practices are a key element of situational awareness practices and thus includes conservative operations plans in its recommendations.” This recommendation appears contrary to the desires of FERC to operate closer to the edge to allow maximum trade to occur based on the ATC standards undergoing revision/review. We should not have competing standards. - On

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	page 25, Awareness of Load-Shed Capability: This "awareness" does no good if the operator does not pull the trigger. THIS is the major cause of the August 14, 2003 blackout and a recurrent theme of recent blackouts. The "word on the street" (from Compliance) is that if you have to shed load (an event), you will be investigated for compliance violations because you must have done something wrong to get to that condition. What message is that sending to the operators? - On page 29, Issue #6: Adequate Funding for Staffing for Real-Time Tools and Support Should be Ensured. This area could not be analyzed by the RTBPTF. However, it did not preclude them from making numerous recommendations to enact the Real-Time tools. I do not like creating standards or requirements without any idea of how it will financially impact entities. This WILL cost a significant amount of money to enact. While many entities (as evidenced by the participation in the survey") are already engaged in pursuing these standards, or want to, the financial burden created by making it mandatory and enforceable will have deleterious effect on reliability. The money is going to come from somewhere. Be it from rate increases or diversion of funds from other projects, delaying the construction needed to fix what is going to be shown on the CA program. The managers of the Reliability Entities are fully aware of the importance of supporting NERC Standards.
Response: The SAR emphasizes functionality, not specific tools. As far as the SAR DT knows, any registered entity is allowed to join a ballot pool. This is not the RTBPTF Report. This is a standalone SAR. The time to comment on the RTBPTF Report is long past. The eventual SDT will not be bound in any way to the RTBPTF Report but to the SAR wording.	
Duke Energy	The drafting team should be very careful not to replicate requirements in multiple standards. For example TOP-008-1 Requirement R4 currently states: "The Transmission Operator shall have sufficient information and analysis tools to determine the cause(s) of SOL violations. This analysis shall be conducted in all operating timeframes. The Transmission Operator shall use the results of these analyses to immediately mitigate the SOL violation."
Response: The SDT has a charge in their delegated responsibilities to avoid duplication of requirements.	
NorthWestern Energy	As mentioned in the Real-Time Tools Survey Analysis and Recommendations Final Report (dated March 13, 2009), "RTBPTF believes that mandatory requirements for real-time tools for reactive reserve monitoring would be highly desirable; however, before such recommendations can be formulated, NERC must define technically justified and feasible-to-implement requirements for determining the appropriate amount and location of acceptable reactive reserves and clarifying how reliability coordinators should monitor these reserves." NorthWestern Energy believes that the same should hold true for alarms, telemetry, and network analysis. First guidelines, in these areas, should be established by NERC; then once implemented and proven effective by Reliability Coordinators these guidelines can be passed down to Transmission Operators and Balancing Authorities.
Response: Guidelines are not enforceable. The SAR has been revised to specify that any metrics will be vetted by the industry through the standards comment process.	
Midwest ISO	The Midwest ISO believes this SAR and resulting standard should address what is required in terms of backup tools or more conservative

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	operations when a tool is unavailable because no tool has 100% availability.
Response: The SAR has been revised to specify that any metrics will be vetted by the industry through the standards comment process. The SAR emphasizes functionality and not tools.	