

Background:

The System Personnel Training SAR drafting team thanks all commenters who submitted comments on the second draft of the SAR. The second draft of the Personnel Training SAR was posted for a 30-day public comment period from February 17 through March 20, 2006. The drafting team asked stakeholders to provide feedback through a special Comment Form. There were 20 sets of comments submitted, representing comments from 64 different people from 59 different entities, representing all NERC Regions and 6 of the 9 industry segments.

Based on the comments received, the drafting team eliminated much of the explanatory information from the SAR and clarified the scope and applicability by making the following conforming changes to the SAR.

- The revised SAR clearly states that the scope is limited to training system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.
- The revised SAR clearly states that the standard will include requirements for the following:
 - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators.
 - Measure the mis-match between actual and desired performance, and
 - Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training.
- The revised SAR clearly states that the following documents will be developed in parallel with the standard to provide stakeholders with support in implementing the standard's requirements:
 - A generic, reliability-related list of tasks assigned to real-time system operators who work for Reliability Coordinators, Balancing Authorities, and Transmission Operators
 - How to determine task performance requirements
 - How to apply a systematic approach to training

With the above conforming changes, the drafting team is recommending that the SAR move forward to standard drafting.

In this 'Consideration of Comments' document, stakeholder comments have been organized so that it is easier to see the summary of changes in response to each aspect of the drafting team's approach to adding the missing measures and compliance elements.. All comments received on the can be viewed in their original format at:

http://www.nerc.com/~filez/standards/Compliance_Cleanup_V0.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 Cauley at 609-452-8060 or at gerry.cauley@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.¹

¹ The appeals process is in the Reliability Standards Process Manual: <http://www.nerc.com/standards/newstandardsprocess.html>.

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- Industry Segments:**
- 1 - Transmission Owners
 - 2 - RTOs, ISOs, Regional Reliability Councils
 - 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 Gv't Entities

List of commenters:

Commenter	Company	Industry Segments								
		1	2	3	4	5	6	7	8	9
Anita Lee	AESO		x							
Ken Goldsmith	Alliant Energy	x								
James H. Sorrels, Jr.	American Electric Power	x				x	x			
Michael Scott	Arizona Public Service Co.	x				x				
Daniel Taormina	Baltimore Gas and Electric	x		x						
Dave Rudolph	BEPC	x		x			x			
Lisa Szot	CAISO		x							
Jeffrey T. Baker	Cinergy	x		x			x			
Alan Gale	City of Tallahassee					x				
Walter Cintron	Con Edison of NY	x								
John Miller	Conectiv Energy Supply, Inc.					x				

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Commenter	Company	Industry Segments								
		1	2	3	4	5	6	7	8	9
Vic Davis	Delmarva Power and Light	x								
Ed Davis	Entergy	x								
Sam Jones	ERCOT		x							
Dennis Minton	Florida Keys Electric Co-op	x								
Jeff Gooding	Florida Power & Light	x								
Eric Senkowicz	FRCC		x							
Linda Campbell	FRCC		x							
Mark Bennett	Gainesville Regional Utilities					x				
Dick Pursley	Great River Energy	x		x						
David Kiguel	Hydro One Networks	x								
Ron Falsetti	IESO		x							
Pete Brandien	ISO-New England		x							
Kathleen Goodman	ISO-New England		x							
William Shemley	ISO-New England		x							
Dennis Florum	LES	x		x		x				
John Horakh	MAAC		x							
Shashi Parekh	Mass. Dept. of Tele. and Energy									x
Tom Mielnik	MEC	x		x		x	x			
Robert Coish	MHEB	x		x		x	x			

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Commenter	Company	Industry Segments								
		1	2	3	4	5	6	7	8	9
Bill Phillips	MISO		x							
Terry Bilke	MISO		x							
Joe Knight	MRO		x							
Peter Lebro	National Grid	x								
Bill Bojorquez	NERC Standards Evaluation Com.		x							
Greg Campoli	New York ISO		x							
Michael Calimano	New York ISO		x							
Ralph Rufrano	New York Power Authority	x								
Al Adamson	New York State Rel. Council		x							
Guy Zito	Northeast Power Coord. Council		x							
Murale Gopinathan	Northeast Utilities	x								
David Little	Nova Scotia Power, Maritimes	x								
Al Boesch	NPPD	x								
Jerad Barnhart	Nstar	x								
Todd Gosnell	OPPD			x		x	x			
James Newton	Pepco Energy Services						x			
Albert DiCaprio	PJM		x							
Bruce Balmat	PJM		x							
Joseph Willson	PJM		x							

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Commenter	Company	Industry Segments								
		1	2	3	4	5	6	7	8	9
Mark Kuras	PJM		x							
Richard Kafka	Potomac Electric Power Company	x								
Valerie Hildebrand	Potomac Electric Power Company	x								
Michael J. Pfeister	Salt River Project	x								
Jim Busbin	Southern Company Services	x								
Jim Griffith	Southern Company Services	x								
Jim Viikinsalo	Southern Company Services	x								
Marc M. Butts	Southern Company Services	x								
Wayne Guttormson	SPC	x		x						
Charles Yeung	SPP		x							
Kathleen A. Davis	Tennessee Valley Authority	x								
Robert Pelligrinni	United Illuminating Co.	x								
Darrick Moe	WAPA	x								
Jim Maenner	WPSC			x				x		
Pam Oreschnick	XEL									

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2.1. Do you agree with the approach to the training standard to limit the scope of the initial standard to persons performing real-time operating tasks that directly impact reliability of the BES?

Summary Consideration: All commenter but one agreed with the drafting team’s revised approach to limit the scope of the initial standard to persons performing real-time operating tasks that directly impact the reliability of the BES. Several commenters asked for additional clarification and the drafting team refined the original SAR to include the following:

The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.

Commenter	Yes	No	Comment
Entergy Services, Inc. (1) Ed Davis		✓	This SAR continues to be overly broad, ambiguous and confusing. We are not sure but it appears the initial standard would require a process to be developed and not require training of anyone. Therefore this question is not appropriate at this time. We do agree that when the appropriate SAR is presented that the training standard should be limited to those persons performing real-time operating tasks that directly impact reliability of the BES.

Response: The SAR has been reworded to clarify to whom the proposed standard will apply, and to clarify what will be required in the standard. The revised SAR does not require that a process be developed – it requires that a systematic process be followed. The wording now reads:

”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.

The proposed standard will require the use of a systematic approach to determining training needs: The proposed standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:

- Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators.
- Measure the mis-match between actual and desired performance, and
- Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training.

The proposed standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training.

The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks.“

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Commenter	Yes	No	Comment
Northeast Power Coordinating Council CP9 Reliability Standards Working Group Guy Zito – NPCC (2) K. Goodman – ISO-NE(2) Ralph Rufrano – NYPA (1) David Little – NS Power (1) Peter Lebro – NGrid (1) David Kiguel – Hydro One (1) J. Barnhart – Nstar (1) W. Shemley – ISONE (2) Greg Campoli – NYISO (2) Ron Falsetti – IESO (2) A. Adamson – NYSRC (2) Sashi Parekh – MA Dept. of Tele. And Energy (9) R. Pelligrinni – United Illum. (1)	✓		NPCC participating members believe the scope of the SAR should be limited to the tasks directly impacting the reliability of the Bulk Electric System. It is not entirely clear to whom this standard will apply.
<p>Response: The SAR has been reworded to clarify to whom the proposed standard will apply, and to clarify what will be required in the standard. The wording now reads:</p> <p>”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p>			
ATC (1) Jason Shaver	✓		ATC supports the position of the SAR Drafting Team of breaking out the training standard into two separate standards. With the SAR Drafting Team creating this two tier approach, any standards from the initial phase should be balloted separately from standards developed in the second phase.
<p>Response: Agreed. Most commenters indicated that the SAR drafting team should focus, for now, solely on training for the real-time system operators who work for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators. As revised, the SAR will not address training for other personnel.</p>			
NYISO (2) Michael Calimano	✓		The NYISO agrees with the SAR drafting Team's approach to limit the scope of the standard to the area of "real time operating tasks" and to require a systematic approach to training. However, the

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Commenter	Yes	No	Comment
			SAR as written is too vague with regard to whom the standard applies. If the standard is meant to merely apply program method, a standard is not required - a definition of what is intended by the existing requirement for "coordinated training" will do.
<p>Response: The SAR has been reworded to clarify to whom the proposed standard will apply, and to clarify what will be required in the standard. The wording now reads:</p> <p>"The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p>			
Arizona Public Services (1) Michael Scott	✓		We agree with this approach. We value the certification of operators, and the certification of personnel who perform support tasks such as engineering, management, and technical services.
<p>Response: Agreed. Most commenters indicated that the SAR drafting team should focus, for now, solely on training for the real-time system operators who work for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators. As revised, the SAR will not address training for other personnel.</p>			
IESO (2) Ron Falsetti	✓		<p>We agree that the scope of the initial standard should cover training program pertaining to real-time operating tasks that directly impact reliability of the BES. However, the way this question is worded (...to persons performing...) and from the SAR as presented, it is not clear whether the proposed standard, even within the aforementioned scope, is intended to set requirements for:</p> <ul style="list-style-type: none"> (i) the entities that perform these operating functions to develop the needed training program for their operating personnel to acquire the competency to perform these tasks, or (ii) the training program to cover a minimum set of topics that enables the operating personnel to acquire the competency to perform these tasks, or (iii) both of the above or something else. <p>While we agree with the recommendation that a systematic approach be used to develop the required training program, and further recognize a training standard should not be overly prescriptive as different organizations (entities) may assign different/additional tasks to its operating personnel. We nevertheless believe that absent any specificities such as to whom the standards apply and a high level scope of the minimum tasks or task related topics to be covered by the training program, the need for having an industry-wide standard for personnel training becomes questionable.</p> <p>In brief, the SAR as written fails to convey the essence of the requirements - to whom the standard apply and whether or not it is a process that is required, which we feel is too vague, or a minimum set of topics that need to be included in the training program, or both.</p>

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Commenter	Yes	No	Comment
			<p>Response: The SAR has been reworded to clarify to whom the proposed standard will apply, and to clarify what will be required in the standard. The wording now reads:</p> <p>”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p> <p>The proposed standard will require the use of a systematic approach to determining training needs: The proposed standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:</p> <ul style="list-style-type: none"> - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators. - Measure the mis-match between actual and desired performance, and - Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training. <p>The proposed standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training.</p> <p>In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefor their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person’s specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select form for recertification in their Appendix A to their Certification Administrative Manual.</p> <p>The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks.“</p>
Pepco Holdings, Inc. (1) Richard Kafka Valerie Hildebrand Vic Davis – Delmarva (1)	✓		For each of the proposed standards for real time operating tasks and support tasks, would the standard differentiate between the new hire who may need to be trained to perform all of the tasks identified to a specified minimum level of competency and the more experienced person who might need, on a periodic basis, to demonstrate that they can still perform at the minimum level of

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Commenter	Yes	No	Comment
John Miller – Conectiv (5) J. Newton – Pepco Energy (6)			competency and perhaps also perform at a specified higher level of competency?
<p>Response: As envisioned, the standard for system operators will require a training program for new operators and a training program that provides continuing education for existing operators. It will also require periodic drills or training for tasks performed infrequently to maintain competency.</p>			
<p>PJM (2) Albert DiCaprio Bruce Balmat Mark Kuran Joseph Willson</p> <p>ISO/RTO Council Bruce Balmat – PJM (2) Anita Lee – AESO (2) Liza Szot – CAISO (2) Sam Jones – ERCOT (2) Ron Falsetti – IESO (2) Pete Brandien – ISONE (2) Bill Phillips – MISO (2) Mike Calimano – NYISO (2) C. Yeung – SPP (2)</p>	✓		<p>PJM (ISO/RTO Council) agrees with the SAR Drafting Team's approach to limit the scope of the standard to real-time operating tasks that directly impact the reliability of the Bulk Power System. The PJM also agrees with the concept that a mandatory NERC standard not be overly prescriptive. In the case of a Personnel Training Program each Reliability Entity must tailor its Training Programs to the specific tasks its operating personnel are required to perform.</p> <p>PJM also recognizes the conflict facing this Drafting Team:</p> <ul style="list-style-type: none"> - Reliability entities do not have a common set of jobs tasks for "...the persons performing real-time operating tasks..." and therefore the Team logically wants to allow the Reliability entity to define the tasks that require training and to define the level of competency needed to achieve a desired outcome. However, - Reliability entities that face non-compliance penalties want to be certain about what is expected from them including who (organization / personnel) and what (process / job tasks) are being covered. Equally critical is the issue of how to measure competency in a way that ensures that all operating personnel have the competency to ensure that the reliability of the bulk power system is maintained. Leaving the definition of competency to each Reliability entity does not ensure a base competency level for North America. <p>PJM, (ISO/RTO Council) while agreeing with the approach, believes that the SAR, as written, fails to convey the essence of a NERC standard - to whom does the standard apply, what is the requirement (achieving a NERC specified level of competency, or is the requirement to have a NERC specified process in place?)</p> <p>PJM, (ISO/RTO Council) while understanding of the Drafting Team's above noted conflict, requests that if the Industry consensus is to have a Training Standard, then the Drafting Team must address:</p> <ol style="list-style-type: none"> (1) WHO (Organizations to have a process, or Operating Persons that must be trained) (2) WHAT (Have a process in place, or Performance measures that define competency)
<p>Response: The SAR has been reworded to clarify to whom the proposed standard will apply, and to clarify what will be required in the</p>			

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Commenter	Yes	No	Comment
			<p>standard. The wording now reads:</p> <p>”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p> <p>The proposed standard will require the use of a systematic approach to determining training needs: The proposed standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:</p> <ul style="list-style-type: none"> - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators. - Measure the mis-match between actual and desired performance, and - Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training. <p>The proposed standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training.</p> <p>The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks.“</p> <p>The Drafting Team does not believe that prescribing a competency level for each task performed by each system operator for all Balancing Authorities, Reliability Coordinators, and Transmission Operators across the continent is valid. The performance requirements of a task must be defined with such specificity to be able to design training and learning assessments that will validate competency to perform that task.</p> <p>The same performance description cannot apply to the large number of system operators across the continent that will be covered by the standard. To define the competency level for each task would be to define the performance of each task to be exactly the same for all entities, which is neither practical, nor would it serve to ensure reliability. There may, however, be a subset of tasks for which proficiency should be set on a NERC-wide basis - the SAR has been written with enough flexibility so that this is not precluded.</p>
Southern Co. – Transm. (1) Marc M. Butts Jim Viikinsalo – SOCO (1) Jim Busbin – SOCO (1) Jim Griffith – SOCO (1)	✓		
AEP (1, 5, 6) James H. Sorrels, Jr.	✓		
TVA (1) Kathleen Davis	✓		
NERC Standards Evaluation	✓		

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Commenter	Yes	No	Comment
Subcommittee Bill Bojorquez – ERCOT			
MAAC (2) John Horakh	✓		
Cinergy (1, 3, 6) Jeffrey T. Baker	✓		
Con Ed of New York (1) Walter Cintron	✓		
Salt River Project (1) Michael J. Pfeister	✓		
FRCC (2) Eric Senkowicz – FRCC Linda Campbell – FRCC Jeff Gooding – FPL (1) Alan Gale – TAL (5) Mark Bennett – Gainesville (5) Dennis Minton – FL Keys (1)	✓		
MRO (2) Dick Pursley – GRE (2) Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Florom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2) Jim Maenner P. Oreschnick – XEL (2) Dave Rudolph – BEPC (2) Darrick Moe – WAPA (2)	✓		

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Commenter	Yes	No	Comment
Joe Knight – MRO (2) 27 additional MRO members not listed above.			

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Regarding the applicability identified in the SAR:

For the Standard that will apply to the personnel who perform ‘real-time’ operating tasks, the SAR Drafting Team is proposing that the ‘Operating Tasks Analysis’ being conducted by the NERC Personnel Subcommittee serve as the basis for determining which types of organizations will be required to comply with the standard.

2. Do you agree with the SAR Drafting Team’s approach to determining which types of organizations will be required to comply with the standard for personnel who perform ‘real-time’ operating tasks?

Summary Consideration: Most commenters indicated that they did not agree with this approach to determining which types of organizations will be required to comply with the standard. Through these responses and the responses to other questions, stakeholders clearly identified a preference for more specifically limiting the scope and drafting team modified the SAR to state that the training standard would apply to:

“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”

Commenter	Yes	No	Comment
FRCC (2) Eric Senkowicz – FRCC Linda Campbell – FRCC Jeff Gooding – FPL (1) Alan Gale – TAL (5) Mark Bennett – Gainesville (5) Dennis Minton – FL Keys (1)		✓	We don't disagree with the concept but asking for endorsement of the "Operating Tasks Analysis" that has not been published or included for review with this SAR seems inappropriate and premature in the development of the standard itself especially if it will be used to "determine which types of organizations will be required to comply with the standard". Need clarification on "type of organization" as this seems to be getting away from the registered entity concept.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p>			
Northeast Power Coordinating Council CP9 Reliability Standards Working Group Guy Zito – NPCC (2) K. Goodman – ISO-NE(2) Ralph Rufrano – NYPA (1)		✓	NPCC Participating members, although believe it is a laudable approach to allow the Operating Tasks Analysis to determine what and who the training program should address, the Standard should be initially directed at those who have direct control or those that have supervisory control to implement actions that may impact reliability of the system.

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Commenter	Yes	No	Comment
David Little – NS Power (1) Peter Lebro – NGrid (1) David Kiguel – Hydro One (1) J. Barnhart – Nstar (1) W. Shemley – ISONE (2) Greg Campoli – NYISO (2) Ron Falsetti – IESO (2) A. Adamson – NYSRC (2) Sashi Parekh – MA Dept. of Tele. And Energy (9) R. Pelligrinni – United Illum. (1)			
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p>			
ATC (1) Jason Shaver		✓	ATC reserves judgement on the SAR Drafting Team's approach until the results are revealed to the industry. In addition, the SAR does not discuss any alternate approaches considered by the SAR Drafting Team .
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefor their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person's specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning 			

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Commenter	Yes	No	Comment
<p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select from for recertification in their Appendix A to their Certification Administrative Manual.</p>			
<p>Con Ed of New York (1) Walter Cintron</p>		<p>✓</p>	<p>Where is this information?</p>
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>The results of the job analysis will be available as an attached reference document to the standard.</p>			
<p>Entergy Services, Inc. (1) Ed Davis</p>		<p>✓</p>	<p>We are not sure but it appears the initial standard resulting from this SAR would require a process to be developed and not require training of anyone. Therefore this question is premature, not appropriate at this time, and should be asked when the SAR for personnel training is presented to the industry.</p> <p>However, at this time we will say we do not agree with the drafting team's approach. The standard that will apply to the personnel who perform real-time operating tasks should apply to those personnel performing the tasks, not to the organizations.</p> <p>An organization that takes on responsibility for meeting the requirements of a standard may delegate the tasks to another organization to actually perform the tasks. The training standards should apply to the personnel actually performing the work for the second organization, not the second organization, nor the organization responsible for meeting the requirements of the standards.</p>
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.” The requirements will be assigned to the Reliability Coordinator, Balancing Authority and Transmission Operator. It is up to these entities to ensure that their real-time system operating personnel are competent to perform assigned reliability –related tasks.</p>			
<p>NYISO (2)</p>		<p>✓</p>	<p>A national "Operating Tasks Analysis" can provide a useful baseline reference on the topics training programs should address in assuring a base competency of operating personnel in North</p>

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Commenter	Yes	No	Comment
Michael Calimano			America. However, prior to the completion, review and evaluation of the task analysis project, it is premature to formalize a training standard based on that foundation. At the present time, if a training standard is needed, it should clearly be applied to those functional entities that are under compliance and certification requirements - RC, BA and TOP.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>The requirements will be assigned to the Reliability Coordinator, Balancing Authority and Transmission Operator. It is up to these entities to ensure that their real-time system operating personnel are competent to perform assigned reliability-related tasks.</p>			
Arizona Public Services (1) Michael Scott		✓	The wording here is a little ambiguous. Is it being proposed that the SAR Drafting Team identify and analyze the critical tasks associated with grid operations, and then each participating organization will determine within their unique structure who performs these critical tasks?...Then these identified personnel would fall under the auspices of the new standard?
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p>			
IESO (2) Ron Falsetti		✓	<p>While we agree that the Operating Tasks Analysis can offer assistance in providing a focus on who and the topics that a training program should cover, the analysis itself is not a critical factor in determining which organizations or functional entities should comply with the training standard (assuming a standard on training program development is needed). Without prejudice to the yet to be made available Operating Tasks Analysis results, we feel that, as a first step, the standard should be directed to at least those recognized entities that must make decisions in implementing, approving or directing others to implement actions that have a direct bearing on system reliability. At the onset, the functional entities that are required to have a training program should be the prime candidates to comply with such a standard. At present, the certification standards for RC, BA and TOP are being developed and expected to be posting for balloting. Each of these standards contains a requirement for the respective entity (organization) to have a training program and provide its operating personnel with training (e.g. Standard ORG-022-1). Given this requirement, it makes logical sense that a standard on training program development be also applied to these entities.</p> <p>To require other entities for which an organization certification standard and the corresponding requirement for having a training program do not current exist or expect to be established in the</p>

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Commenter	Yes	No	Comment
			near future would likely be challenged by these other entities. Moreover, the scope of the training standard would be too wide for effective development and compliance monitoring.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p>			
ISO/RTO Council Bruce Balmat – PJM (2) Anita Lee – AESO (2) Liza Szot – CAISO (2) Sam Jones – ERCOT (2) Ron Falsetti – IESO (2) Pete Brandien – ISONE (2) Bill Phillips – MISO (2) Mike Calimano – NYISO (2) C. Yeung – SPP (2)		✓	<p>While the IRC agrees that the Personnel Subcommittee's Operating Tasks Analysis can offer assistance in providing a focus on who and on what topics a training program should cover, the analysis itself is not a critical factor in determining which organizations or functional entities should comply with the training standard (assuming a standard on training program development is needed). Without prejudice to the yet to be made available Operating Tasks Analysis results, it is the IRC's opinion that, as a first step, the standard should be directed to at least those recognized entities that must make decisions in implementing, approving or directing others to implement actions that have a direct bearing on system reliability.</p> <p>At the onset, the functional entities that are required to have a training program should be the prime candidates to comply with such a standard. At present, the certification standards for RC, BA and TOP are being developed and expected to be posting for balloting. Each of these standards contains a requirement for the respective entity (organization) to have a training program and provide its operating personnel with training (e.g. Standard ORG-022-1). Given this requirement, it makes logical sense that a standard on training program development be also applied to these entities.</p> <p>To require other entities for which an organization certification standard and the corresponding requirement for having a training program do not currently exist or expect to be established in the near future would likely be challenged by these other entities. Moreover, the scope of the proposed training standard is too wide for effective development and compliance monitoring.</p>
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p>			
PJM (2) Albert DiCaprio Bruce Balmat Mark Kuran		✓	<p>While PJM agrees that the Personnel Subcommittee's Operating Tasks Analysis can offer assistance in providing a focus on who and on what topics a training program should cover, the analysis itself is not a critical factor in determining which organizations or functional entities should comply with the training standard (assuming a standard on training program development is needed). Without prejudice to the yet to be made available Operating Tasks Analysis results, it is</p>

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Commenter	Yes	No	Comment
Joseph Willson			<p>PJM's opinion that, as a first step, the standard should be directed to at least those recognized entities that must make decisions in implementing, approving or directing others to implement actions that have a direct bearing on system reliability.</p> <p>At the onset, the functional entities that are required to have a training program should be the prime candidates to comply with such a standard. At present, the certification standards for RC, BA and TOP are being developed and expected to be posting for balloting. Each of these standards contains a requirement for the respective entity (organization) to have a training program and provide its operating personnel with training (e.g. Standard ORG-022-1). Given this requirement, it makes logical sense that a standard on training program development be also applied to these entities.</p> <p>To require other entities for which an organization certification standard and the corresponding requirement for having a training program do not current exist or expect to be established in the near future would likely be challenged by these other entities. Moreover, the scope of the proposed training standard is too wide for effective development and compliance monitoring.</p>
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p>			
NERC Standards Evaluation Subcommittee Bill Bojorquez – ERCOT	✓		The SES believes that a Task Analysis is the correct approach.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>The task list will be made available as a reference to the standard.</p>			
MAAC (2) John Horakh	✓		But also need to determine the type of personnel within those organizations that perform "real-time" operating tasks.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p>			

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<p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>With the change in applicability of the standard to only those entities that are ORG certified (TO, BA, RC), there is a clear responsibility for these entities to train their personnel as identified in both this standard and the ORG cert standard for a given organization. It will be the certified organizations responsibility to ensure that personnel performing reliability related tasks in real-time identify and provide required training. If reliability related tasks are performed by other entities on behalf of the certified organization it is still the responsibility of the organization that is certified to meet NERC compliance requirements and ensure appropriate training has been identified and provided to those performing their reliability tasks.</p>			
<p>MRO (2) Dick Pursley – GRE (2) Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Florom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2) Jim Maenner P. Oreschnick – XEL (2) Dave Rudolph – BEPC (2) Darrick Moe – WAPA (2) Joe Knight – MRO (2) 27 additional MRO members not listed above.</p>	<p>✓</p>		<p>However, NERC needs to seriously address the accuracy and usability of the Functional Model.</p>
<p>Response: It is not within the scope of this proposed SAR or proposed standard to revise the Functional Model.</p>			
<p>Pepco Holdings, Inc. (1) Richard Kafka Valerie Hildebrand Vic Davis – Delmarva (1) John Miller – Conectiv (5)</p>	<p>✓</p>		<p>Using the task analysis would be a good method for identifying who would be subject to the real time operating tasks standard. The approach suggests that if a person performs any of the tasks identified with “real time operating” that person’s organization regardless of its functional model type would be subject to the standard. Would the standard apply to an organization if the person performed only one or two tasks or if an organization’s understanding of what a particular task entails differs from the accepted task analysis prepared by the Personnel Subcommittee?</p>

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Commenter	Yes	No	Comment
J. Newton – Pepco Energy (6)			
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p>			
Salt River Project (1) Michael J. Pfeister	✓		
AEP (1, 5, 6) James H. Sorrels, Jr.	✓		
TVA (1) Kathleen Davis	✓		
Southern Co. – Transm. (1) Marc M. Butts Jim Viikinsalo – SOCO (1) Jim Busbin – SOCO (1) Jim Griffith – SOCO (1)	✓		
Cinergy (1, 3, 6) Jeffrey T. Baker	✓		

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For the Standard that will apply to the personnel who perform 'support tasks', the SAR Drafting Team is proposing that an 'Operations Support Task Analysis' planned for development by the NERC Personnel Subcommittee serve as the basis for determining which support tasks directly impact reliability of the BES and for determining which types of organizations will be required to comply with the standard.

3. Do you agree with the approach proposed above to determine which support tasks directly impact reliability of the BES and for determining which types of organizations will be required to comply with the standard?

Summary Consideration: Most commenters indicated that they did not agree with this approach. Through these responses and the responses to other questions, stakeholders clearly identified a preference for more specifically limiting the scope of this SAR and drafting team modified the SAR to state that the training would be for:

"System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators."

The support tasks performed by support personnel will not be addressed in this standard.

Commenter	Yes	No	Comment
FRCC (2) Eric Senkowicz – FRCC Linda Campbell – FRCC Jeff Gooding – FPL (1) Alan Gale – TAL (5) Mark Bennett – Gainesville (5) Dennis Minton – FL Keys (1)		✓	Need clarification on "type of organization" as this seems to be getting away from the registered entity concept. The FRCC believes that efforts and resources should focus on "real-time" personnel standard at this time and should be closely coordinated and complementary to the developments of the PCGC and the new CEH Certification policy. Real-time personnel have the "primary" impact to the reliability of the BES and as such should be the focus of the standard. The development of any standards should at the very least, complement the Operator Certification process especially in terminology and overlapping of compliance "measures". The PS scope with regard to "support personnel" needs to be limited at this time and not included within this SAR Further, we would propose to eliminate "support personnel" training scope completely from this SAR and initiate a "stand-alone" SAR addressing "support personnel" training.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>"System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators." The support tasks performed by support personnel will not be addressed in this standard.</p>			
Northeast Power		✓	Many participating members of NPCC, although recognizing that this effort stems from a

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Commenter	Yes	No	Comment
Coordinating Council CP9 Reliability Standards Working Group Guy Zito – NPCC (2) K. Goodman – ISO-NE(2) Ralph Ruffano – NYPA (1) David Little – NS Power (1) Peter Lebro – NGrid (1) David Kiguel – Hydro One (1) J. Barnhart – Nstar (1) W. Shemley – ISONE (2) Greg Campoli – NYISO (2) Ron Falsetti – IESO (2) A. Adamson – NYSRC (2) Sashi Parekh – MA Dept. of Tele. And Energy (9) R. Pelligrinni – United Illum. (1)			blackout recommendation have noted that the SAR seems vague, seems unmeasurable in a meaningful way and questions the overall need for a standard. Perhaps a guideline may be more appropriate.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.” The support tasks performed by support personnel will not be addressed in this standard.</p> <p>Guidelines are not subject to compliance and accountability. The SAR team feels that not incorporating a training standard in response to the blackout recommendations would be doing a disservice to the industry.</p>			
ATC (1) Jason Shaver		✓	ATC reserves judgement on the SAR Drafting Team's approach until the results are revealed to the industry. In addition, the SAR does not discuss alternate approaches considered by the SAR Drafting Team.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p>			

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			<p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>Alternate approaches were considered such as requiring a list of topics to train to. Unfortunately not all organizations perform the same tasks. A more simplistic approach that does not employ a systematic process to training is not flexible to training needs and cannot ensure the following:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select from for recertification in their Appendix A to their Certification Administrative Manual.</p>
<p>Con Ed of New York (1) Walter Cintron</p>		✓	<p>The information should be provided in order to make an assessment.</p>
			<p>Response: Agreed – however most entities felt that the scope of the SAR should be limited to just system operators. The drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p>
<p>Arizona Public Services (1) Michael Scott</p>		✓	<p>Once the tasks that "directly impact reliability of the BES" are identified and analyzed, each participating organization would be in the best position to decide which individuals would need to comply with the standard.</p>
			<p>Response: Agreed – however most entities felt that the scope of the SAR should be limited to just system operators. The drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>The support tasks performed by support personnel will not be addressed in this standard.</p>

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Commenter	Yes	No	Comment
Entergy Services, Inc. (1) Ed Davis		✓	Our response to Question 2 above also applies here with respect to Operations Support Task Analysis, the personnel performing those tasks, and the applicable organizations.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>The support tasks performed by support personnel will not be addressed in this standard.</p>			
NYISO (2) Michael Calimano	✓	✓	The NYISO does agree that the proposed systematic approach to training will be helpful in developing effective training programs. The need for a North American "Operations Support Task Analysis" to define training which personnel or which organizational entities are required to comply with the training standard not clear. In the mandatory standard environment, each entity responsible to comply with NERC standards, will train operations staff to comply. Extending the standard to cover "support" tasks should be a secondary consideration, if it is necessary at all.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>The support tasks performed by support personnel will not be addressed in this standard.</p>			
IESO (2) Ron Falsetti	✓	✓	<p>We do not hold a position on whether or not the proposed analysis be performed since the priority at this time is to (a) determine the need for having a standard for the entities (or is it the personnel as the question implies?) that perform "direct" tasks, and (b) develop the standard. Extending the standard to cover entities (or personnel) that perform the "support" tasks should be a secondary consideration and, when pursued, can be built upon the structure and success of the initial set.</p> <p>We agree that the systematic approach will help responsible organizations develop a structured and effective training program for operating personnel to attain the required competency to perform their tasks. We further recognize that the training standards should not be prescriptive as different organizations may assign different tasks to its operating personnel, and hence the standards should provide the flexibility for these organizations to develop the training program according to their specific needs, budget and resource considerations, etc.</p>

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Commenter	Yes	No	Comment
			<p>However, as mentioned earlier, simply putting this as a standard requirement without (a) some mention of the topics, even just at a high level, to be included in the training program and (b) a sense of how the requirement can be measured may render the standard too vague, which begs a question on the need for this standard.</p>
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefor their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person’s specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select form for recertification in their Appendix A to their Certification Administrative Manual.</p> <p>There may, however, be a subset of tasks for which proficiency should be set on a NERC-wide basis - the SAR has been written with enough flexibility so that this is not precluded.</p>			
<p>PJM (2) Albert DiCaprio Bruce Balmat Mark Kuran Joseph Willson</p> <p>ISO/RTO Council</p>	<p>✓</p>	<p>✓</p>	<p>In the mandatory standard environment each entity responsible to comply with a NERC standard, must do whatever is required to comply with that standard. To the extent that support persons need training to ensure that the entity complies, then training will be done (otherwise the entity would in the long or short run be unable to continually comply).</p> <p>PJM (IRC) proposes that the priority of the Drafting Team be:</p> <ol style="list-style-type: none"> 1 - Determine the need for having a standard 2 - Define WHO the standard applies to (is it reliability entities or is it directed at personnel as

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Bruce Balmat – PJM (2) Anita Lee – AESO (2) Liza Szot – CAISO (2) Sam Jones – ERCOT (2) Ron Falsetti – IESO (2) Pete Brandien – ISONE (2) Bill Phillips – MISO (2) Mike Calimano – NYISO (2) C. Yeung – SPP (2)			the question implies) 3. - Develop a standard Extending the standard to include entities (or personnel) that perform "support" tasks is a secondary consideration; one that, if needed, should be pursued subsequent to the development of the primary standard. PJM (IRC) does agree that the proposed Systematic approach would be useful to help organizations develop structured and effective training programs attain a required (by standard or by organization's needs) level of competency. PJM (IRC) agrees that training standards should not be prescriptive and that any Training standard must permit flexibility in HOW each responsible entity complies to the standard. However, as previously mentioned, crafting this SAR into a mandatory standard (a) without some definition of the topics to be included in the Training Programs, and (b) without some indication of how compliance will be measured - renders this SAR too vague, which in turn begs the question of the need for a standard at all.
<p>Response: During the initial posting of the SAR, most commenters indicated there is a reliability-related need for a training standard.</p> <p>The drafting team has revised the applicability of the standard to clarify WHO must comply with the training standard – it is the Reliability Coordinator, Balancing Authority and Transmission Operator.</p> <p>“The scope of this training standard is limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>The SAR was revised to identify what the standard will require. The standard will require the use of a systematic approach to determining training needs. The standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:</p> <ul style="list-style-type: none"> - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators. - Measure the mis-match between actual and desired performance, and - Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training. <p>The SAR was revised to identify some of the measures – and these are expected to be further refined during standard development:</p> <ul style="list-style-type: none"> - The standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training. - The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks. <p>-As envisioned, a very broad list of training topics may be included in the proposed standard to serve as an aid to those developing training</p>			

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Commenter	Yes	No	Comment
for the operators in the RC, TOP and BA functions.			
Pepco Holdings, Inc. (1) Richard Kafka Valerie Hildebrand Vic Davis – Delmarva (1) John Miller – Conectiv (5) J. Newton – Pepco Energy (6)	✓		While this could be an acceptable method for identifying support tasks that directly impact reliability the range of organizations that might be affected could be much broader and more difficult to assess. And the same question needs to be asked...what if an organization performs only one or two support tasks and what if those tasks are performed by different kinds of persons in a wide variety of organization types? Would any organization that had perhaps one person in one department and one person in another department who each performed only one or two tasks be subject to the standard?
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p>			
NERC Standards Evaluation Subcommittee Bill Bojorquez – ERCOT	✓		The SES believes that this is the correct general approach but notes two concerns: 1) The drafting team is directly differing from the Functional Model. While there are many problems with the Functional Model, and NERC has already determined that differences between a requirement in a standard and the definition of the Functional Model will be resolved in favor of the standard, the SES prefers a more coordinated approach. 2) The detail of the tasks may result in some organizations with a very small set of tasks for which they must meet the personnel training standard.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>As revised, the standard’s applicability is directly tied to functional model entities.</p>			
MAAC (2) John Horakh	✓		But also need to determine the types of personnel that perform the support tasks.
<p>Response: The question asked by the SAR drafting team is no longer a pertinent question since the drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p>			

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Commenter	Yes	No	Comment
<p>The support tasks performed by support personnel will not be addressed in this standard.</p>			
Southern Co. – Transm. (1) Marc M. Butts Jim Viikinsalo – SOCO (1) Jim Busbin – SOCO (1) Jim Griffith – SOCO (1)	✓		
AEP (1, 5, 6) James H. Sorrels, Jr.	✓		
TVA (1) Kathleen Davis	✓		
Salt River Project (1) Michael J. Pfeister	✓		
Cinergy (1, 3, 6) Jeffrey T. Baker	✓		
MRO (2) Dick Pursley – GRE (2) Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Florom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2) Jim Maenner P. Oreschnick – XEL (2) Dave Rudolph – BEPC (2) Darrick Moe – WAPA (2) Joe Knight – MRO (2) 27 additional MRO members not listed above.	✓		

Regarding the Focus of the Proposed SAR

The SAR Drafting Team proposes that the training standards require the use of a 'systematic' approach to developing training. The 'systematic' approach requires the following:

1. **Determining the needs for training** through a task analysis or job and task analysis process, followed by a training needs assessment. This step enables the organization to know what training its operators need.
2. **Designing and adjusting the training program** to make sure it directly correlates performance requirements, learning objectives, and learning evaluation to tasks. The training program must be designed to bring the system operators from their current level of competency to the organization's desired level of competency.
3. **Developing the training program** so that it includes effective learning experiences and delivery methods. The approach to this step, as well as step 2, will drive the requirements for training and operating staffs.
4. **Delivering the training to the personnel;** in other words, ensure that the training actually takes place as designed.
5. **Verifying and documenting the competency** that the personnel achieved through a documented assessment process

4. Do you agree with the SAR Drafting Team that the training standards should require use of the 'systematic' approach to training as opposed to requiring specific topics be taught to all personnel for a specific number of hours?

Summary Consideration: A Systematic Approach to training is a methodical approach as opposed to a disorganized approach. There is not one systematic approach to training, and the SAR is not meant to imply that there is only one methodical approach. There are, however certain questions that must be asked and answered for training to produce the ability to perform tasks as required by the job.

The revised SAR states more clearly that the standard will require entities to:

- Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators.
- Measure the mis-match between actual and desired performance, and
- Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training.

Consideration of Comments on Second Draft of System Personnel Training SAR

Commenter	Yes	No	Comment
<p>FRCC (2) Eric Senkowicz – FRCC Linda Campbell – FRCC Jeff Gooding – FPL (1) Alan Gale – TAL (5) Mark Bennett – Gainesville (5) Dennis Minton – FL Keys (1)</p>		✓	<p>The FRCC appreciates the tremendous efforts that have been undertaken in researching, addressing and developing training program improvement strategies for the industry with respect to BES system operator training. We also agree in principle that the "systematic" approach to developing training programs is the "best" approach for the industry as we go forward.</p> <p>Having said that, we do have significant concerns with the proposed implementation track via the "training standard". Our concern lies in translation of these subjective training concepts, principles and approaches into "clear" and "measurable" compliance elements, if the standard were to proceed through the development process.</p> <p>The SAR states that "the training standard includes all five of these steps (of the systematic approach), and measures compliance by requiring documentation that these steps were performed". The FRCC contends that the necessary documentation to demonstrate compliance of a valid "systematic approach" leaves too much ambiguity to become effective Reliability Standards, Measures.</p> <p>As we further reviewed this issue, we have come to the conclusion that the Reliability Standard may be the wrong document to use to convey the requirements of a "systematic training program" to the industry.</p> <p>We suggest that the "Training Standard" should proceed but with a slightly different approach. The evaluation /verification and accreditation / certification (for lack of a specific terminology) of an entity's "systematic training program" should occur outside the Reliability Standards and Compliance arena. The evaluation should also be performed by appropriate personnel who are qualified and knowledgeable in the training concepts to ensure accurate determination of adequacy of such programs. The "Training Standard" would then prescribe training requirements, by job function (ie. hours in relevant study areas as determined by competency evaluations), and based on JTA impacts on BES reliability.</p> <p>On further reflection, we would also offer that such an approach will lend itself better to improving the overall quality of industry training programs than the proposed track of the standard. An evaluation / accreditation process will re-focus the programs away from striving to meet the "minimum" documentation requirements of a "systematic training program" to a cooperative process geared to, not only evaluate the program, but perhaps serve as an opportunity to share industry-wide training "best practices".</p> <p>Finally, in light of limited resources, this approach would provide the industry the greatest flexibility at achieving compliance to the "Training Standard" by allowing entities access to not only "in house" training programs but also access to external training resources (as long as they have been "accredited" as a "systematic approach program") to fulfill their training objectives.</p>
<p>Response: The SAR has been reworded to clarify to whom the proposed standard will apply, and what will be required in the standard. The wording now reads:</p>			

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			<p>”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p> <p>The proposed standard will require the use of a systematic approach to determining training needs: The proposed standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:</p> <ul style="list-style-type: none"> - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators. - Measure the mis-match between actual and desired performance, and - Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training. <p>The proposed standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training.</p> <p>The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks.“</p> <p>Guidelines are not subject to compliance and accountability. The SAR team feels that not incorporating a training standard in response to the blackout recommendations would be doing a disservice to the industry.</p> <p>A Systematic Approach to training is a methodical approach as opposed to a disorganized approach. There is not one systematic approach to training, and the SAR is not meant to imply that there is only one methodical approach. There are, however certain questions that must be asked and answered for training to produce the ability to perform tasks as required by the job. However one groups those questions and whatever words one uses to describe those groupings, the basic questions must be addressed.</p> <p>In regard to “prescribing training requirements by job function (ie. hours in relevant study areas as determined by competency evaluations)”, the drafting team interprets this to equate to a list of topics for a job classification, and that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefor their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person’s specific job.</p> <p>The Drafting Team does not believe that prescribing a competency level for each task performed by each system operator for all Balancing Authorities, Reliability Coordinator, and Transmission Operator across the continent is valid. The performance requirements of a task must be defined with such specificity to be able to design training and learning assessments that will validate competency to perform that task that the same performance description cannot apply to the large number of system operators across the continent that will be covered by the standard. To define the competency level for each task would be to define the performance of each task to be exactly the same for all entities, which is neither practical, nor would it serve to ensure reliability. There may, however, be a subset of tasks for which proficiency should be set on a NERC-wide</p>

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Commenter	Yes	No	Comment
basis - the SAR has been written with enough flexibility so that this is not precluded.			
Con Ed of New York (1) Walter Cintron		✓	Not in the form of the rejected SAR Draft.1.0 323825
<p>Response: The SAR has been reworded to clarify to whom the proposed standard will apply, and what will be required in the standard. The wording now reads:</p> <p>”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p> <p>The proposed standard will require the use of a systematic approach to determining training needs: The proposed standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:</p> <ul style="list-style-type: none"> - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators. - Measure the mis-match between actual and desired performance, and - Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training. <p>The proposed standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training.</p> <p>The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks.“</p>			
ISO/RTO Council Bruce Balmat – PJM (2) Anita Lee – AESO (2) Liza Szot – CAISO (2) Sam Jones – ERCOT (2) Ron Falsetti – IESO (2) Pete Brandien – ISONE (2) Bill Phillips – MISO (2) Mike Calimano – NYISO (2) C. Yeung – SPP (2) PJM (2)	✓	✓	<p>PJM (ISO/RTO Council) does agree that the proposed Systematic approach would be useful to help organizations develop structured and effective training programs attain a required (by standard or by organization's needs) level of competency. PJM agrees that training standards should not be prescriptive and that any Training standard must permit flexibility in HOW each responsible entity complies to the standard. However, as previously mentioned, crafting this SAR into a mandatory standard (a) without some definition of the topics to be included in the Training Programs, and (b) without some indication of how compliance will be measured - renders this SAR too vague, which in turn begs the question of the need for a standard at all.</p> <p>The term 'competency' is subjective and not a measurable quantity.</p> <p>The proposed Systematic Approach is just that one approach out of many. Generally speaking , just as one training program is as good as another, one Training approach is as good as another. NERC may need to mandate training but it must provide more justification to show that it is mandatory to follow one approach.</p> <p>PJM (ISO/RTO Council) proposes that if the PS believes that this standard is a goal that</p>

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Commenter	Yes	No	Comment
Albert DiCaprio Bruce Balmat Mark Kuran Joseph Willson			everyone should "strive" to achieve, then this proposal should be drafted as a Best Practice - but not as a standard.
<p>Response: In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefore their knowledge and skills are somewhat different.</p> <p>Training content should be designed based on performance requirements for a person's specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>There may, however, be a subset of tasks for which proficiency should be set on a NERC-wide basis - the SAR has been written with enough flexibility so that this is not precluded.</p> <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select from for recertification in their Appendix A to their Certification Administrative Manual.</p> <p>Training should produce the ability to perform. Performance is measurable. If not, then we would never know when a task is complete and done as well as needed. Defining performance means identifying what triggers action, what action is required, and to what specification or criteria. To say it in simpler terms, a performance statement says "when this happens, do this, this well". What is done, when it is done, and how well it is done are all very measurable, as is training based on performance requirements. In addition, each of the stages of a systematic approach to training is very measurable. For example, it is easy to check to see if training objectives are based on performance requirements, and if learning assessments check for achievement of learning objectives.</p> <p>The term competency is being used in a general manner in the SAR to refer to the ability to perform a task. Training should produce the ability to perform. Performance is measurable. If not, then we never know when a task is complete and done as well as needed. Defining performance means identifying what triggers action, what action is required, and to what specification or criteria. To say it in simpler terms, a performance statement says "when this happens, do this, this well". This is very measurable, and training based on performance requirements is very measurable.</p>			

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			<p>A Systematic Approach to training is a methodical approach as opposed to a disorganized approach. There is not one systematic approach to training, and the SAR is not meant to imply that there is only one methodical approach. There are, however certain questions that must be asked and answered for training to produce the ability to perform tasks as required by the job. However one groups those questions and whatever words one uses to describe those groupings, the basic questions must be addressed. For example, if training is requested to correct a performance problem and the question is not asked "Is the performance problem due to a lack of ability to perform?", then the training may be teaching something already known to someone that already has the ability to perform a task, but for some other reason is not applying his or her ability to perform in the workplace. Not using a systematic or methodical approach to training will not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>Best Practices are not subject to compliance and accountability. The SAR drafting team feels that not incorporating a training standard in response to the blackout recommendations would be doing a disservice to the industry. Best Practices and guidelines have existed for many, many years, and our industry has chosen to ignore them to a large extent, as was noted in the 2003 blackout reports, as it was in many other blackout reports before that.</p>
<p>NYISO (2) Michael Calimano</p>	<p>✓</p>	<p>✓</p>	<p>The NYISO agrees that a requirement of a "systematic" approach to training will be a benefit to the industry. However as mentioned before, simply putting this as a standard requirement without (a) some mention of topics to be included in the training program, and (b) a sense of how the requirement can be measured will render the standard too vague, which bring into question the need for such a standard.</p>
<p>Response: Training should produce the ability to perform. Performance is measurable. If not, then we never know when a task is complete and done as well as needed. Defining performance means identifying what triggers action, what action is required, and to what specification or criteria. To say it in simpler terms, a performance statement says "when this happens, do this, this well". What is done, when it is done, and how well it is done are all very measurable, as is training based on performance requirements. Whether or not the ability to do tasks is applied in the workplace is outside the scope of training. Many factors other than the ability to perform are involved in performance actually occurring.</p> <p>In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefor their knowledge and skills are somewhat different. There may, however, be a subset of tasks for which proficiency should be set on a NERC-wide basis - the SAR has been written with enough flexibility so that this is not precluded.</p> <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select from for recertification in their Appendix A to their Certification Administrative Manual.</p>			

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Commenter	Yes	No	Comment
IESO (2) Ron Falsetti	✓	✓	We agree that the systematic approach can help responsible organizations to develop a structured and effective training program to help operating personnel to acquire the needed competency to perform their tasks. However, as mentioned earlier, simply putting this as a standard requirement without (a) some mention of the topics, even just at a high level, to be included in the training program and (b) a sense of how the requirement can be measured may render the standard too vague, which begs a question on the need for this standard.
<p>Response: In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefore their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person's specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select form for recertification in their Appendix A to their Certification Administrative Manual. There may be a subset of tasks for which proficiency should be set on a NERC-wide basis - the SAR has been written with enough flexibility so that this is not precluded.</p> <p>Training should produce the ability to perform. Performance is measurable. If not, then we never know when a task is complete and done as well as needed. Defining performance means identifying what triggers action, what action is required, and to what specification or criteria. To say it in simpler terms, a performance statement says "when this happens, do this, this well". What is done, when it is done, and how well it is done is all very measurable, as is training based on performance requirements. In addition, each of the stages of a systematic approach to training is very measurable. For example, it is easy to check to see if training objectives are based on performance requirements, and if learning assessments check for achievement of learning objectives.</p>			
NPCC CP9 Reliability Standards Working Group Guy Zito – NPCC (2) K. Goodman – ISO-NE(2) Ralph Rufrano – NYPA (1) David Little – NS Power (1) Peter Lebro – NGrid (1)	✓		If in fact a standard must develop then the NPCC participating members believe that the systematic approachful would be useful however it must be stressed that the individual organizations that must perform the training and show their affected employees must demonstrate a level of competency than they must be afforded the latitude to tailor their training programs to accomplish this. How does one apply a metric to competency?

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Commenter	Yes	No	Comment
David Kiguel – Hydro One (1) J. Barnhart – Nstar (1) W. Shemley – ISONE (2) Greg Campoli – NYISO (2) Ron Falsetti – IESO (2) A. Adamson – NYSRC (2) Sashi Parekh – MA Dept. of Tele. And Energy (9) R. Pelligrinni – United Illum. (1)			
<p>Response: Requiring a systematic approach to training will provide the flexibility to entities needed to tailor their training programs to fit their needs. That is why the approach of requiring a process has been chosen.</p> <p>In regard to metrics for competency, the term competency is being used in a general manner in the SAR to refer to the ability to perform a task. Training should produce the ability to perform. Performance is measurable. If not, then we never know when a task is complete and done as well as needed. Defining performance means identifying what triggers action, what action is required, and to what specification or criteria. To say it in simpler terms, a performance statement says “when this happens, do this, this well”. This is very measurable, training based on performance requirements is very measurable.</p>			
ATC (1) Jason Shaver	✓		ATC is supportive of the 'systematic' approach to developing customized, personnel training as opposed to a centrally developed, topic specific, standardized approach to personnel training. The former approach allows for more flexibility between companies while providing a common framework for the industry. That being said, ATC recommends the team give consideration to how NERC will validate and audit this standard as a customized approach will likely result in varying levels of documentation and results among companies. Any standards that come out of this SAR should be complimentary ,or at a minimum parallel, to NERC’s CEH accreditation process. This standard should not create a conflicting approach to what is currently being used for the NERC CEH accreditation process.
<p>Response: Points well made. The drafting team will consider documentation requirements. In regard to being complimentary to the CE Program, this approach fits quite well with the requirements of the CE Program.</p>			
Entergy Services, Inc. (1) Ed Davis	✓		We agree that the standard developed from this SAR should expand on this SYSTEMATIC TRAINING PROCESS.
<p>Response: The SAR has been reworded to clarify to whom the proposed standard will apply, and what will be required in the standard. The wording now reads:</p> <p>”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and</p>			

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<p>Transmission Operators.</p> <p>The proposed standard will require the use of a systematic approach to determining training needs: The proposed standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:</p> <ul style="list-style-type: none"> - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators. - Measure the mis-match between actual and desired performance, and - Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training. <p>The proposed standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training.</p> <p>The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks."</p>			
<p>MRO (2) Dick Pursley – GRE (2) Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Florom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2) Jim Maenner P. Oreschnick – XEL (2) Dave Rudolph – BEPC (2) Darrick Moe – WAPA (2) Joe Knight – MRO (2) 27 additional MRO members not listed above.</p>	<p>✓</p>		<p>The concern we have with a "systematic" approach is training that is required in areas where Operator exposure in real time is sporadic (e.g. disturbances, restoration, frequency arrest, voltage collapse) may be sacrificed. A "systematic" approach in our view will tend to concentrate more on supporting daily operating functions, and ignore keeping Operators familiar with abnormal operations which is critical to maintaining the BES. Unfortunately a "systematic" approach has challenges in the compliance world whereas a specific number of hours is measurable and can easily fit in the compliance world.</p>
<p>Response: As envisioned, the standard for system operators will require a training program for new operators and a training program that provides continuing education for existing operators. It will also require periodic drills or training for tasks performed infrequently to maintain competency.</p>			
<p>Southern Co. – Transm. (1)</p>	<p>✓</p>		<p>We agree but there are still some very basic training requirements which are needed regardless of the function or region the work is being done. These functions must be done the same way by</p>

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Commenter	Yes	No	Comment
Marc M. Butts Jim Viikinsalo – SOCO (1) Jim Busbin – SOCO (1) Jim Griffith – SOCO (1)			all or there will be confusion in the industry.
<p>Response: The Drafting Team does not believe that prescribing a competency level for each task performed by each system operator for all Balancing Authorities, Reliability Coordinator, and Transmission Operator across the continent is valid. The performance requirements of a task must be defined with such specificity to be able to design training and learning assessments that will validate competency to perform that task that the same performance description cannot apply to the large number of system operators across the continent that will be covered by the standard. To define the competency level for each task would be to define the performance of each task to be exactly the same for all entities, which is neither practical, nor would it serve to ensure reliability.</p> <p>There may, however, be a subset of tasks for which proficiency should be set on a NERC-wide basis - the SAR has been written with enough flexibility so that this is not precluded.</p>			
Northeast Utilities (1) Murale Gopinathan	✓		Northeast Utilities endorses the use of SAT process
<p>Response: Thank you for your support.</p>			
Arizona Public Services (1) Michael Scott	✓		<p>We agree with the SAT philosophy for determining training requirements. However, the description provided in Step 1 above prescribes strict adherence to the following model: Job Analysis, Task Analysis, Needs Assessment. At the risk of getting into semantics, the understanding of these terms is pivotal to successful training: (1) Job Analysis, i.e. identifying tasks associated with a job, and determining these task's (DIF) Difficulty/Importance/Frequency (2) Task Analysis, i.e. analysis of each of these tasks to identify the knowledge/skills/abilities involved, (3) "Needs Assessment" (aka Needs Analysis) regarding each task to identify/solve gaps between performance desired and existing performance.</p> <p>We would challenge the Drafting Team to consider the possibility that thorough analysis can be performed correctly in a number of ways. For instance, many reserve the right to go no farther in the analysis process than the DIF determination, which may reveal that the task is so simple (or so prescriptively proceduralized), or that is so unimportant (from a stability or reliability standpoint), or is done so frequently that the likelihood of excellent performance is very strong, that no further analysis is indicated.</p> <p>In addition, flexibility is often provided to analysts to allow the use of Needs Assessment first, which may preclude the need for JTA at all. For example, if a performance deficiency is detected, Needs Assessment may determine that this problem occurred because of a procedure deficiency, human factor shortfall, or other non-training related challenge. The correct intervention could be a job aid, procedure revision, or better lighting. IF there is a knowledge or skill deficit, THEN a JTA may be performed, learning objectives designed, and coursework</p>

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			<p>developed.</p> <p>In summary, we believe that the Systematic Approach to Training is an excellent process, but that this standard should not prescribe the absolute sequence or order of its application.</p> <p>Finally, the term "assessment" in item 5 above has a broad range of meaning. Do you mean that the trainee must be assessed (i.e. evaluations or examinations)? Or do you mean that the evaluation process needs to be assessed for effectiveness (or audited) periodically? Or do you mean that the improvement in personnel performance (because of training) needs to be measured or assessed via some pre-determined metrics?</p>
<p>Response: Excellent comments. The drafting team realizes that we have a wide range of background and understanding of the training process in our industry. The points made by the commenter will be clarified in the standard and its attachments and references to a point. A standard cannot contain sufficient verbiage to explain all concepts and principles it addresses.</p>			
<p>NERC Standards Evaluation Subcommittee Bill Bojorquez – ERCOT</p>	✓		<p>The SES notes that this is an excellent approach, but cautions that neither training programs nor personnel certifications nor qualifications are a guarantee of reliability.</p>
<p>Response: Excellent observation! Training can only validate competency. It cannot guarantee performance. It can document the ability to perform, but performance can be deficient for many reasons, only one of which is the ability to perform. The lack of a procedure or insufficient operating systems or data are just some examples of things other than competency deficiency that can prevent an otherwise competent operator from performing as required.</p>			
<p>MAAC (2) John Horakh</p>	✓		<p>But this "systematic" approach pre-supposes that personnel are NOT at the organization's desired level of competency. There really needs to be a "Step 0" that periodically measures whether an individual currently possesses the organization's desired level of competency for the job or tasks they are performing. If not, then they need training.</p>
<p>Response: Agreed – only if there is a mis-match between desired and actual performance, is training needed. If a systematic approach to training is followed competency gaps for existing operators will be identified as compared to the require level of performance.</p> <p>The SAR has been reworded to clarify to whom the proposed standard will apply, and what will be required in the standard. The wording now reads:</p> <p>”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p> <p>The proposed standard will require the use of a systematic approach to determining training needs: The proposed standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:</p> <ul style="list-style-type: none"> - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators. - Measure the mis-match between actual and desired performance, and 			

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Commenter	Yes	No	Comment
<p>- Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training.</p> <p>The proposed standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training.</p> <p>The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks."</p>			
Pepco Holdings, Inc. (1) Richard Kafka Valerie Hildebrand Vic Davis – Delmarva (1) John Miller – Conectiv (5) J. Newton – Pepco Energy (6)	✓		The systematic approach is an excellent approach to developing training versus requiring a specific number of hours of training on specific topics.
<p>Response: Thank you for your support of the use of the systematic approach.</p>			
AEP (1, 5, 6) James H. Sorrels, Jr.	✓		Yes, the NERC Certification Program already includes a list of required continuing education topics. Additional NERC training documents developed to influence and support the known training tasks from the NERC task analysis, would be good to support the standard, but not to measure the standard. These documents would be created separate from the standards and would be added to the existing NERC training documents.
<p>Response: This is what is intended.</p>			
Salt River Project (1) Michael J. Pfeister	✓		
Cinergy (1, 3, 6) Jeffrey T. Baker	✓		
TVA (1) Kathleen Davis	✓		

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The SAR Drafting Team proposes that the training standard should not include a list of required training topics, because any list of training topics would not be applicable to all entities. Instead, the SAR Drafting Team proposes that each entity provide training to support competent performance of all reliability-related real-time tasks performed within that entity. The final determination of what tasks are performed within each entity, and therefore what tasks must be addressed in the training program needs to be determined by each entity.

5. Do you agree with the approach to a training standard that requires each entity to determine their specific training needs?

Summary Consideration: Most commenters agreed that the standard should require each entity to determine its own specific training needs. Several entities in response to this question and in response to earlier questions indicated that a minimum list of topics would be helpful. The drafting team will therefore include some high level suggested topics in the standard; the PCGC already has a list of topics to select from for recertification in their Appendix A to their Certification Administrative Manual. There may be, however, a subset of tasks for which proficiency should be set on a NERC-wide basis - the revised SAR has been written with enough flexibility so that this is not precluded.

Commenter	Yes	No	Comment
Cinergy (1, 3, 6) Jeffrey T. Baker		✓	My concern is this approach will result in voids. I believe high level goals should be outlined by the SAR drafting team with the individual entities providing the necessary training to meet each goal.
Response: This is a unique comment in the way it is stated. What we believe it says is exactly what the systematic approach to training accomplishes – the goal of the standard is to require the application of a systematic (methodical as opposed to random or disorganized) approach to training as the goal, with the specifics of what constitutes a systematic approach, and the individual entities retaining the latitude to determine their specific training needs using a systematic approach.			
Entergy Services, Inc. (1) Ed Davis		✓	<p>We are not sure but it appears the initial standard resulting from this SAR would require a process to be developed and not require training of anyone. Therefore this question is premature, not appropriate at this time, and should be asked when the SAR for personnel training is presented to the industry.</p> <p>Also, we are not sure we understand the statement nor the question. An organization should be able to specify the tasks for which it is responsible. That specification of tasks is through being the functional entity responsible to meet the requirements of a standard, or through a delegation agreement.</p> <p>An organization whose employees perform tasks to meet reliability-related real-time tasks should have a process to evaluate the competency of its personnel and to train its personnel to perform those tasks. That process should evaluate the specific training needs of the employees performing those tasks.</p> <p>Competency standards should apply to the personnel performing the tasks, not to the organization.</p>

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Commenter	Yes	No	Comment
			A list of training topics may be included in the standard but they would apply to the personnel performing the tasks, not to the organization.
<p>Response: The drafting team has revised the applicability of the standard to be:</p> <p>“System operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.”</p> <p>The SAR will require training of anyone (to whom it applies) that has found, using a systematic approach to training, that there is a gap in personnel’s performance requirements and their ability to perform.</p> <p>The drafting team agrees that an organization whose employees perform tasks to meet reliability-related real-time tasks should have a process to evaluate the competency of its personnel and to train its personnel to perform those tasks. That process should evaluate the specific training needs of the employees performing those tasks. That is the result of focusing the standard on a systematic approach to training as opposed to a list of required topics. Using a systematic approach, the organization determines which system operator tasks directly impact reliability and train to those tasks when they identify a competency gap.</p> <p>In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefor their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person’s specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select form for recertification in their Appendix A to their Certification Administrative Manual.</p> <p>In regard to the proposed standard applying to personnel performing tasks, the drafting team agrees that competency applies to personal performing tasks. The SAR would require the responsible entities to ensure that personnel are provided with training that ensures that competency.</p>			
NYISO (2) Michael Calimano	✓	✓	The NYISO agrees that each entity should determine their own specific training needs and the methods to address those needs. If there is to be a benefit of a NERC training standard, such a standard should define a consistent set of topics which need to be addressed across the industry,

Consideration of Comments on Second Draft of System Personnel Training SAR

Commenter	Yes	No	Comment
			regardless of size, location or organizational structure.
<p>Response: In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefor their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person's specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select form for recertification in their Appendix A to their Certification Administrative Manual.</p> <p>There maybe a subset of tasks for which proficiency should be set on a NERC-wide basis - the revised SAR has been written with enough flexibility so that this is not precluded.</p>			
IESO (2) Ron Falsetti	✓	✓	We agree that each entity should determine their specific training needs. However, believe the standard needs to include at least a set of high level training topics to be covered by the training program. Commensurate with our proposal that the RC, BA and TOP are the entities to which this standard will apply at least in the onset, their operating functions are clearly defined in the functional model. There is no reason why some of the topics that reflect their operating functions should not be included, as minimum requirements, in the standard to ensure that there is consistent coverage in the training programs for the same function across the industry, regardless of size, location and organization structure.
<p>Response: In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefor their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person's specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning 			

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Commenter	Yes	No	Comment
<p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select form for recertification in their Appendix A to their Certification Administrative Manual.</p>			
<p>There maybe a subset of tasks for which proficiency should be set on a NERC-wide basis - the revised SAR has been written with enough flexibility so that this is not precluded.</p>			
<p>Training should produce the ability to perform. Performance is measurable. If not, then we would never know when a task is complete and done as well as needed. Defining performance means identifying what triggers action, what action is required, and to what specification or criteria. To say it in simpler terms, a performance statement says “when this happens, do this, this well”. What is done, when it is done, and how well it is done are all very measurable, as is training based on performance requirements. In addition, each of the stages of a systematic approach to training are very measurable. For example, it is easy to check to see if training objectives are based on performance requirements, and if learning assessments check for achievement of learning objectives.</p>			
<p>PJM (2) Albert DiCaprio Bruce Balmat Mark Kuran Joseph Willson ISO/RTO Council Bruce Balmat – PJM (2) Anita Lee – AESO (2) Liza Szot – CAISO (2) Sam Jones – ERCOT (2) Ron Falsetti – IESO (2) Pete Brandien – ISONE (2) Bill Phillips – MISO (2) Mike Calimano – NYISO (2) C. Yeung – SPP (2)</p>	<p>✓</p>	<p>✓</p>	<p>PJM (IRC) does agree that "the final determination of what tasks are performed ...be addressed in (a) training program...determined by each entity." PJM also agrees that if this SAR is to be a standard, then the proposal must identify, at least a high-level, the topics that must be used to meet the compliance requirements for a training program. PJM (IRC) suggests that if this SAR is to proceed then the RC, BA and TOP are the entities to which this standard will apply because their operating functions are clearly defined in the functional model. PJM (IRC) believes that there is no reason why some of the topics that reflect the operating functions of the three above noted functional entities should not be included, as minimum requirements, in the standard. This would ensure that there is consistent coverage in the training programs for the same function across the industry, regardless of size, location and organization structure. PJM (IRC) agrees that the Personnel Subcommittee has created an excellent training manual that organizations should consider as a "Best Practice" approach to training, but this material need not be turned into a NERC Standard .</p>
<p>Response: The SAR has been revised to clarify its scope and applicability and the drafting team believes the revised SAR supports your suggestions. The revised SAR is only applicable to the Reliability Coordinator, Balancing Authority and Transmission Operator. While the drafting team believes that each entity should identify its own company-specific list or reliability-related tasks and each entity should identify company-specific training needs, the drafting team also recognizes that there maybe a subset of tasks for which proficiency should be set on a NERC-wide basis - the revised SAR has been written with enough flexibility so that this is not precluded.</p>			

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Commenter	Yes	No	Comment
<p>In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefore their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person's specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1 Training needed for performance of real-time reliability tasks are identified 2 Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select form for recertification in their Appendix A to their Certification Administrative Manual.</p> <p>There maybe a subset of tasks for which proficiency should be set on a NERC-wide basis - the revised SAR has been written with enough flexibility so that this is not precluded.</p>			
Salt River Project (1) Michael J. Pfeister	✓		This should work if the requirement for a training plan that addresses "knowledge and competencies required for reliable system operations" remains in place (PER-002-0, R3.3).
<p>Response: As envisioned, the proposed standard will replace PER-002-0, but will contain the same requirement.</p>			
FRCC (2) Eric Senkowicz – FRCC Linda Campbell – FRCC Jeff Gooding – FPL (1) Alan Gale – TAL (5) Mark Bennett – Gainesville (5) Dennis Minton – FL Keys (1)	✓		Some degree of self-determination is appropriate as long as it is based on an appropriate "Job Task Analysis".
<p>Response: We agree.</p>			
MAAC (2) John Horakh	✓		However, a list of "such as" training topics would be acceptable.
<p>Response: In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs</p>			

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Commenter	Yes	No	Comment
<p>to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefor their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person's specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select form for recertification in their Appendix A to their Certification Administrative Manual.</p> <p>There maybe a subset of tasks for which proficiency should be set on a NERC-wide basis - the revised SAR has been written with enough flexibility so that this is not precluded.</p> <p>Training should produce the ability to perform. Performance is measurable. If not, then we would never know when a task is complete and done as well as needed. Defining performance means identifying what triggers action, what action is required, and to what specification or criteria. To say it in simpler terms, a performance statement says "when this happens, do this, this well". What is done, when it is done, and how well it is done are all very measurable, as is training based on performance requirements. In addition, each of the stages of a systematic approach to training are very measurable. For example, it is easy to check to see if training objectives are based on performance requirements, and if learning assessments check for achievement of learning objectives.</p>			
Pepco Holdings, Inc. (1) Richard Kafka Valerie Hildebrand Vic Davis – Delmarva (1) John Miller – Conectiv (5) J. Newton – Pepco Energy (6)	✓		A standard that requires any given entity to determine its own specific training needs is preferable to one that prescribes or mandates training that might not be applicable to all organizations.
<p>Response: We agree.</p>			
Northeast Power Coordinating Council CP9 Reliability Standards Working Group	✓		

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Commenter	Yes	No	Comment
Guy Zito – NPCC (2) K. Goodman – ISO-NE(2) Ralph Rufrano – NYPA (1) David Little – NS Power (1) Peter Lebro – NGrid (1) David Kiguel – Hydro One (1) J. Barnhart – Nstar (1) W. Shemley – ISONE (2) Greg Campoli – NYISO (2) Ron Falsetti – IESO (2) A. Adamson – NYSRC (2) Sashi Parekh – MA Dept. of Tele. And Energy (9) R. Pelligrinni – United Illum. (1)			
NERC Standards Evaluation Subcommittee Bill Bojorquez – ERCOT	✓		
ATC (1) Jason Shaver	✓		
AEP (1, 5, 6) James H. Sorrels, Jr.	✓		
TVA (1) Kathleen Davis	✓		
Southern Co. – Transm. (1) Marc M. Butts Jim Viikinsalo – SOCO (1) Jim Busbin – SOCO (1) Jim Griffith – SOCO (1)	✓		
Arizona Public Services (1) Michael Scott	✓		
MRO (2)	✓		

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Commenter	Yes	No	Comment
Dick Pursley – GRE (2) Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Florom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2) Jim Maenner P. Oreschnick – XEL (2) Dave Rudolph – BEPC (2) Darrick Moe – WAPA (2) Joe Knight – MRO (2) 27 additional MRO members not listed above.			
Con Ed of New York (1) Walter Cintron	✓		

6. Please provide any additional comments on the revised SAR that you haven't already provided above.

Commenter	Comment
<p>FRCC (2) Eric Senkowicz – FRCC Linda Campbell – FRCC Jeff Gooding – FPL (1) Alan Gale – TAL (5) Mark Bennett – Gainesville (5) Dennis Minton – FL Keys (1)</p>	<p>We reiterate our concern with the development of a "support staff" training standard at this time. The NERC PS should focus its efforts on real-time operations of the BES at this time. Trying to get every entity to have a "Cadillac" training system is beyond the charge of establishing MINIMUM standards as stated in the SAR "purpose". Training programs for all the "support staff" in an organization would be a significant cost that may not significantly improve the reliability of the BES.</p> <p>Introduction - Page SAR-5, item number 5. What process is an "amendment of the Training Standard"? The word "amendment" is not used in the Reliability Standards Process Manual, Version 4 of 8/2/05. The SDT/PS should follow the approved process for modification and not attempt to create a new process by saying they are going to "amend" a standard when they can get around to it.</p> <p>Finally, we want to reiterate our appreciation for the significant work of the PS and by no means are we suggesting it should be tempered or abandoned. We feel that the concepts, as described, do "need" to be delivered to the industry, we just don't concur that the "Training Standard" is an appropriate "systematic training program" evaluation and measurement vehicle.</p>
<p>Response: The SAR was revised, and no longer contains any requirements for training 'support staff'. The SAR has been revised and no longer includes the reference 'amendment to the Training Standard.' The revised SAR still requires use of the systematic approach to developing training.</p>	
<p>ATC (1) Jason Shaver</p>	<p>The SAR Team should consider whether this SAR, if applicable to Planning Authority personnel, also has applicability to other Reliability Functions, as indicated in the "Reliability Functions" section, such as Resource Planner, Transmission Planner and Distribution Provider.</p> <p>Any standards that come out of this SAR should be complimentary ,or at a minimum parallel, to NERC's CEH accreditation process.</p> <p>ATC requests that meeting invites for the proctored JTA Workshops be sent out by email in addition to being posted on the NERC Standards Development web page. The industry should know about the workshops as soon as they are agreed to by NERC to allow for adequate scheduling time.</p> <p>ATC looks forward to reviewing this standard in the future.</p>
<p>Response: These comments are very relevant to the broader view of the 2003 Blackout Studies. Based on stakeholder comments, the drafting team reduced the scope of the SAR to focus specifically on the training of real-time system operators who perform reliability-related Bulk Electric System Tasks for Reliability Coordinators, Transmission Operators and Balancing Authorities. The drafting team still believes training is needed for other operating and support personnel, but recognizes that stakeholders want to focus on the more critical training issue first – that of the real time system operators.</p>	

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Commenter	Comment
	<p>There has been very intentional coordination between the SAR drafting team, the PCGC certificate maintenance process changes, and the proposed training standard to make them complimentary. As envisioned, this standard will complement the Organization Certification Standards, System Operator Certification, and the Continuing Education Hours program.</p> <p>The proctored JTA has been re-thought because of the difficulty an entity would have in sending a system operator to a location with the associated travel expenses to just complete a survey. The intent was to make the completion of the survey more valid by doing it with one-on-one instruction, but technology offers more options and the drafting team has realized that there are more cost responsible options available with the current state of technology. We will take a more cost-effective approach to doing the JTAs.</p>
<p>Con Ed of New York (1) Walter Cintron</p>	<p>The Draft SAR 1.0 323825 is missing sections R9,10,11,12,13 and 14.</p> <p>I think that this initial SAR should limit itself to those performing operating tasks in a real-time or day-ahead time frame.</p> <p>As is the SAR is too encompassing and requires resources that are not available and may be unrealistic to support if drafted by many entities throughout the country.</p>
	<p>Response: The SAR has been reworded to narrow the scope and applicability of the associated standard. The wording now reads:</p> <p>”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p>
<p>Entergy Services, Inc. (1) Ed Davis</p>	<ol style="list-style-type: none"> 1. We commend the SAR authors for modifying the SAR based on comments submitted. However, we believe the authors have not modified the SAR enough. This SAR continues to be overly broad, ambiguous and confusing. The SAR contains a discussion of many issues but does not specify the requirements of a standard resulting from THIS SAR. 2. We are not sure but THIS SAR seems to be requesting the initial standard would require a process to be developed and not require training of anyone. We agree that the development of the process should be vetted through the industry standards developemnt process to obtain industry-wide comments. However, we think the development of a PROCESS rises to the level of being a STANDARD. We also think that the PROCESS of a training program is not really measurable, except in a very subjective sense, and will cause significant problems with audits and sanctions. 3. Also, after reading the SAR it is not clear which entity is being discussed: the corporation that needs to develop a training program, or the employee who may need training. If the SAR is discussing both the corporation and the employee then it is not clear which parts of the SAR apply to the corporation and which apply to the employee.

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Commenter	Comment
	<p>4. However, we do not think the industry participants should guess about the intent and/or content of a standard to be developed. Nor should we agree to march forward with a vague request for a standard and associated requirements.</p> <p>5. The SAR contains a discussion of Job Task Analysis, Operating Task Analysis and Operations Support Task Analysis that will be performed. Then, based on those results something else will be done. We suggest another SAR be written and submitted when those analyses are complete. For instance, Item 3 states the task analysis will supply the industry with the task analysis data that will serve as the foundation for performance requirements required to determine competency gaps.</p> <p>6. There is a section entitled Concepts of the Training Standard which includes the statement that the proposed NERC training standard includes the requirements for these training standards. We are unable to find the requirements of the training standards in the SAR. They do not seem to be there.</p> <p>7. The SAR contains 5 steps which appear to be steps in a training program PROCESS. Those steps seem reasonable.</p> <p>The SAR also contains a highlighted section with three paragraphs. The first paragraph contains a reasonable statement that every organization should determine the tasks that its operating personnel perform. The second paragraph contains the seemingly contradictory statement that the organization is not required to perform a Job Task Analysis. The third paragraph contains a statement that the Personnel Subcommittee is conducting three studies.</p> <p>8. What would be the requirements of a standard that resulted from this SAR? We do not know from the content of this SAR and therefore suggest the authors make the SAR more explicit.</p>
<p>Response: 1, 4, 8 The SAR has been reworded to clarify to whom the proposed standard will apply, and what will be required in the standard. The wording now reads:</p> <p>”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p> <p>The proposed standard will require the use of a systematic approach to determining training needs: The proposed standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:</p> <ul style="list-style-type: none"> - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators. 	

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Commenter	Comment
	<ul style="list-style-type: none"> - Measure the mis-match between actual and desired performance, and - Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training. <p>The proposed standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training.</p> <p>The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks.“</p> <p>2. Training should produce the ability to perform a task to a specified level of competence. Performance is measurable. If not, then we would never know when a task is complete and done as well as needed. Defining performance means identifying what triggers action, what action is required, and to what specification or criteria. To say it in simpler terms, a performance statement says “when this happens, do this, this well”. What is done, when it is done, and how well it is done are all very measurable, as is training based on performance requirements. In addition, each of the stages of a systematic approach to training is very measurable. For example, it is easy to check to see if training objectives are based on performance requirements, and if learning assessments check for achievement of learning objectives.</p> <p>3. Competency applies to personnel performing tasks. The SAR would require the responsible entities to ensure that personnel are provided with training that ensures that competency.</p> <p>5. The SAR drafting team, based on stakeholder comments, has decided to limit the scope of the training standard to system operators performing real-time operations. The support tasks performed by support personnel will not be addressed in this standard. Furthermore the proposed standard will be limited to the organizations that will be certified under the pending organization certification standards for the Transmission Operator (TO), the Balancing Authority (BA) and the Reliability Coordinator (RC). The results of the NERC job analysis will be included in the standard as an aid to the industry, not the basis for determining to whom the standard applies. This is a change from the last version of the SAR.</p> <p>6. The specific requirements of the standard have not been completely developed. It is the understanding of the SAR drafting team that this is not part of the SAR drafting and approval process. The SAR has been revised to omit these references.</p> <p>7. Agree. The revised SAR states that entities will be required to follow a systematic process.</p>
<p>MRO (2) Dick Pursley – GRE (2) Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2)</p>	<p>It appears that this SAR is not a new standard as checked under SAR type on SAR-1 but is actually a revision to existing standard PER-002-0. The PER-002-0 standard would appear to be redundant and not needed after this standard has been developed.</p> <p>We are very pleased about the NERC Personnel Subcommittee's interest and efforts to clarify and develop standards concerning training of support personnel. We also applaud the responsiveness of the System Personnel Training SAR Drafting Team to the initial concerns with the first draft of the SAR.</p>

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Commenter	Comment
Dennis Florom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2) Jim Maenner P. Oreschnick – XEL (2) Dave Rudolph – BEPC (2) Darrick Moe – WAPA (2) Joe Knight – MRO (2) 27 additional MRO members not listed above.	
<p>Response: Yes, this standard would replace PER_002.</p>	
NYISO (2) Michael Calimano	<p>The NYISO agrees that the systematic approach to training based on local needs and tasks is more that will benefit the reliable operation of the BES. However, the standard needs to be developed with a manageable scope, clearly defined measures of compliance, and it should contain an outline of topics that would insure consistency in both the method and the content of operations training across the industry.</p>
<p>Response: The SAR has been reworded to clarify to whom the proposed standard will apply, and what will be required in the standard. The wording now reads:</p> <p>”The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p> <p>The proposed standard will require the use of a systematic approach to determining training needs: The proposed standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:</p> <ul style="list-style-type: none"> - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators. - Measure the mis-match between actual and desired performance, and - Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training. <p>The proposed standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training.</p> <p>The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks.”</p>	

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Commenter	Comment
	<p>In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefore their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person's specific job. To do otherwise does not ensure that:</p> <ol style="list-style-type: none"> 1. Training needed for performance of real-time reliability tasks are identified 2. Time and money are not wasted on unneeded training 3. Gaps in performance are identified 4. Training is designed and developed to match performance gaps 5. Demonstration of task performance through assessment of learning <p>However, the drafting team will include some high level suggested topics in the standard; the PCGC already has a list of topics to select from for recertification in their Appendix A to their Certification Administrative Manual.</p> <p>There maybe a subset of tasks for which proficiency should be set on a NERC-wide basis - the revised SAR has been written with enough flexibility so that this is not precluded.</p>
<p>IESO (2) Ron Falsetti</p>	<p>We feel that development of a training standard is a step in the right direction in view of the recommendations of the 2003 blackout report and given the requirements to have certified personnel for some of the functional entities and these entities' responsibility to provide training. However, the standard needs to be developed with manageable scope, tangible requirements that can be measured, and with an aim to achieve consistency in training development not just in terms of the process but also in terms of the topics for the same function across the industry. In this vein, we offer the following suggestions for consideration:</p> <ol style="list-style-type: none"> a. The SAR to clearly convey to whom (entities) the proposed standard would apply. To limit the scope at the onset, we suggest the standard be developed for compliance by the RC, BA and TOP only. b. The SAR to provide a high level description of the requirements, which should include (i) the use of a systematic approach to develop the training program and (ii) a high level scope of coverage of the training program. The tasks listed in the draft Organization Certification standards for RC, BA and TOP could serve to provide this coverage.
	<p>Response: Agreed. The SAR has been reworded to clarify to whom the proposed standard will apply, and what will be required in the standard. The wording now reads:</p> <p>"The scope of this proposed training standard will be limited to system operators performing tasks in real-time that directly impact the reliability of the Bulk Electric System (BES), and who perform such tasks for entities registered as Reliability Coordinators, Balancing Authorities, and Transmission Operators.</p>

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Commenter	Comment
	<p>The proposed standard will require the use of a systematic approach to determining training needs: The proposed standard will require each Reliability Coordinator, Balancing Authority and Transmission Operator to:</p> <ul style="list-style-type: none"> - Identify the desired performance for each real-time, reliability-related task performed by its real-time system operators. - Measure the mis-match between actual and desired performance, and - Use the results of the mis-match between desired and actual performance as the basis for determining training needs, developing, delivering and evaluating training. <p>The proposed standard will require that entities have evidence that a systematic approach to training was conducted and used as the basis for providing training.</p> <p>The proposed standard will require that each responsible entity have evidence that each of its real-time system operators is competent to perform each assigned task that is on its Company-specific List of Reliability-related Tasks."</p> <p>In regard to a list of topics, the drafting team believes that requiring all RCs, Bas, and TOs to train on the same topics, or even all BAs to train on the same list of topics, is counter to a valid approach to training. All BAs do not do the same tasks in the same way, therefor their knowledge and skills are somewhat different. Training content should be designed based on performance requirements for a person's specific job. However, the drafting team will include some high level suggested topics in the standard. There maybe a subset of tasks for which proficiency should be set on a NERC-wide basis - the revised SAR has been written with enough flexibility so that this is not precluded.</p>
<p>NERC Standards Evaluation Subcommittee Bill Bojorquez – ERCOT</p>	<p>The SES believes that it is appropriate to begin the development of training standards with those most affecting the real-time reliability. The SES also believes that it will be very difficult to develop training standards for personnel involved in longer range planning. It is an inherently different process, involving group efforts and cycles of review, that tends to identify strong and poor performers. There are general requirements for educational level and subjects, training in the tools of trade and the general processes used in loger range planning, but it difficult to conceive of a training program that could provide assurance of "good planning."</p>
<p>Response: The scope of the SAR was reduced to focus, as you and several others suggested, on the real-time system operators who most affect real-time reliability.</p>	
<p>Pepco Holdings, Inc. (1) Richard Kafka Valerie Hildebrand Vic Davis – Delmarva (1) John Miller – Conectiv (5) J. Newton – Pepco Energy (6)</p>	<p>This is a much more labor intensive process. Arriving at an assessment that accurately measures a person's competency could be difficult to create or achieve, particularly in an organization with limited training resources.</p>
<p>Response: While difficult to achieve, the drafting team believes that this is the right direction. End-users need to know that those charged with responsibility for protecting reliability of the interconnected grid are competent. As envisioned, the reference documents identified in the revised SAR will provide entities with assistance in meeting the standard's requirements.</p>	

Consideration of Comments on Second Draft of System Personnel Training SAR

Commenter	Comment
AEP (1, 5, 6) James H. Sorrels, Jr.	The standard should provide a time specification and allowance for implementation of the standard. Putting future continuing education training materials and programs into format will fall into place more readily than the existing initial training program materials already in place by most entities. Re-development of these programs, especially if requiring additional staffing to handle development and delivery methods, would require more time to implement for existing progression programs.
<p>Response: Developing an implementation plan at this point would be premature – the implementation plan will be developed by the standard drafting team after the standard has been drafted.</p>	
PJM (2) Albert DiCaprio Bruce Balmat Mark Kuran Joseph Willson ISO/RTO Council Bruce Balmat – PJM (2) Anita Lee – AESO (2) Liza Szot – CAISO (2) Sam Jones – ERCOT (2) Ron Falsetti – IESO (2) Pete Brandien – ISONE (2) Bill Phillips – MISO (2) Mike Calimano – NYISO (2) C. Yeung – SPP (2)	In its comments to the first draft of this SAR, the Industry overwhelmingly supports the value of Training. PJM (IRC) also strongly endorses the concept of training to ensure reliability, and supports the Systematic Approach process being developed. The Personnel Subcommittee has taken a step in the right direction in view of the recommendations of the 2003 Blackout Report, however, PJM must point out the fact that the SAR is required to complement: <ol style="list-style-type: none"> 1. Current Certification process 2. Functional Model regarding the entities that are responsible for compliance to NERC standards 3. NERC Standards Process <ul style="list-style-type: none"> - Manageable scope - Measurable requirements - Consistent application and results
<p>Response: The drafting team believes that the revised SAR does complement the new certification standards, the functional model and the NERC standards process. The revised SAR does provide more clarity to the scope and applicability of the proposed standard.</p>	