NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments

Phase 1 of Balancing Authority Reliability-based Controls: Reserves
BAL-001-1

The Balancing Authority Reliability-based Controls: Reserves Drafting Team thanks all commenters who submitted comments on the proposed revisions to BAL-001-1 Real Power Balancing Control Performance. These standards were posted for a 30-day public comment period from June 4, 2012 through July 3, 2012. Stakeholders were asked to provide feedback on the standards and associated documents through a special electronic comment form. There were 38 sets of comments, including comments from approximately 136 different people from approximately 85 companies representing 9 of the 10 Industry Segments as shown in the table on the following pages.

Based on industry comments the drafting team made the following clarifying modifications to the proposed standard and associated documents.

- Created a definition for Regulation Reserve Sharing Group and Regulation Reserve Sharing Group reporting ACE.
- Removed the equation for calculating Reporting ACE from the attachment and added it to the definition.
- Modified the applicability section to provide additional clarity and remove any ambiguity.
- Made minor clarifying modifications to Requirement R1 and Requirement R2.
- Made minor clarifying modifications to the VSLs for Requirement R1 and Requirement R2.
- Modified the Background Document to provide additional clarity.

There were a couple of minority issues that the team was unable to resolve, including the following:

- Several stakeholders felt that modifying the definition for Interconnection was outside the scope of the drafting team's SAR. The drafting team disagrees with you regarding the SAR. The SAR states that the drafting team is to address the directives from FERC Order 693. One of these directives was to establish a continent wide contingency reserve policy. Since Quebec is part of the continent therefore the term Interconnection should be corrected.
- Many stakeholders felt that using BAAl had caused increased inadvertent flows and transmission issues. The drafting team stated that they had not seen any issues that you are describing occur during the field trial that can be directly attributable to the use of BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.
- A few stakeholders wanted to add the term "steady-state" to the purpose statement. The drafting team explained that frequency is always dynamic. The drafting team believes that adding the term steady-state would require additional clarity as to the meaning of steady-state and could create ambiguity.

- A couple of stakeholders thought that referencing an attachment in the requirement would create requirements within the attachment. The drafting team explained that the attachment was not creating any additional requirements. The attachment only provides the calculation methodology. The drafting team believes that the requirements should only state what an entity is supposed to do, not how to calculate something.
- A couple of stakeholders were concerned that a small BAs operation could be more restrictive under BAAL. The drafting team stated that they were aware of the concern identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs.

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

http://www.nerc.com/filez/standards/Project2010-14.1_Phase_1_of_Balancing_Authority_RBC.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, Mark Lauby, at 404-446-9723 or at mark.lauby@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.[1]

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

Index to Questions, Comments, and Responses

The Industry Segments are:

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

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
1.	Group	Terry Bilke	ISO's Standards Review Committee		X								

	Additional Member	Additional Organization	Region	Segment Selection
1.	Al DiCaprio	PJM	RFC	2
2.	Steve Meyers	ERCOT	ERCOT	2
3.	Ben Li	IESO	NPCC	2
4.	Charles Yeung	SPP	SPP	2

2.	Group	David Dockery	Associated Electric Cooperative Inc, JRO00088	X		X		X	X				

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

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
3.		M & A Electric Power Cooperative	SERC	1, 3									
4.		Northeast Missouri Electric Power Cooperative	SERC	1, 3									
5.		N.W. Electric Power Cooperative, Inc.	SERC	1, 3									
6.		Sho-Me Power Electric Cooperative	SERC	1, 3									
3.	Group	Jason Marshall	ACES Power Marketing Standards Collaborators						X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Bob Solomon	Hoosier Energy	RFC	1
2.	Megan Wagner	Sunflower Electric Power Corporation	SPP	1
3.	John Shaver	AEPCO	WECC	4, 5
4.	John Shaver	SWTC	WECC	1

4.	Group	WILL SMITH	MRO NSRF	X	X	X	X	X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	MAHMOOD SAFI	OPPD	MRO	1, 3, 5, 6
2.	CHUCK LAWRENCE	ATC	MRO	1
3.	TOM WEBB	WPS	MRO	3, 4, 5, 6
4.	JODI JENSON	WAPA	MRO	1, 2
5.	KEN GOLDSMITH	ALTW	MRO	4
6.	ALICE IRELAND	XCEL	MRO	1, 3, 5, 6
7.	DAVE RUDOLPH	BEPC	MRO	1, 3, 5, 6
8.	ERIC RUSKAMP	LES	MRO	1, 3, 5, 6
9.	JOE DEPOORTER	MGE	MRO	3, 4, 5, 6
10.	SCOTT NICKELS	RPU	MRO	4
11.	TERRY HARBOUR	MEC	MRO	5, 6, 1, 3
12.	MARIE KNOX	MISO	MRO	2
13.	LEE KITTELSON	OTP	MRO	1, 3, 4, 5
14.	SCOTT BOS	MPW	MRO	1, 3, 5, 6
15.	TONY EDDLEMAN	NPPD	MRO	1, 3, 5
16.	MIKE BRYTOWSKI	GRE	MRO	1, 3, 5, 6
17.	DAN INMAN	MPC	MRO	1, 3, 5, 6

5.	Group	Guy Zito	Northeast Power Coordinating Council										X

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

	Additional Member	Additional Organization	Region	Segment Selection
1.	Alan Adamson	New York State Reliability Council, LLC	NPCC	10
2.	Greg Campoli	New York Independent System Operator	NPCC	2
3.	Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
4.	Chris de Graffenried	Consolidated Edison Co. of New York, Inc.	NPCC	1
5.	Mike Garton	Dominion Resources Services, Inc.	NPCC	5
6.	Michael Lombardi	Northeast Utilities	NPCC	1
7.	Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
8.	Kathleen Goodman	ISO - New England	NPCC	2
9.	Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
10.	Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
11.	Donald Weaver	New Brunswick System Operator	NPCC	2
12.	Ben Wu	Orange and Rockland Utilities	NPCC	1
13.	Robert Pellegrini	The United Illuminating Company	NPCC	1
14.	Brian Robinson	Utility Services	NPCC	8
15.	Randy MacDonald	New Brunswick Power Transmission	NPCC	9
16.	Bruce Metruck	New York Power Authority	NPCC	6
17.	Wayne Sipperly	New York Power Authority	NPCC	5
18.	David Kiguel	Hydro One Networks Inc.	NPCC	1
19.	Si-Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
20.	David Ramkalawan	Ontario Power Generation, Inc,	NPCC	5
21.	Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
22.	Carmen Agavriloai	Independent Electricity System Operator	NPCC	2
23.	Michael Jones	National Grid	NPCC	1
24.	Michael Schiavone	National Grid	NPCC	1

6.	Group	Stuart Goza	SERC OC Standards Review Group (see email list)	X		X		X				X	

	Additional Member	Additional Organization	Region	Segment Selection
1.	Gerald Beckerle	Ameren	SERC	1, 3
2.	Jeff Harrison	AECI	SERC	1, 3, 5, 6
3.	Cindy Martin	Southern	SERC	1, 5
4.	Andy Burch	EEI	SERC	5

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
5.	Larry Akens	TVA	SERC	1, 3, 5, 6									
6.	Devan Hoke	SERC	SERC	10									
7.	Wayne Van Liere	LGE-KU	SERC	3									
8.	Kelly Casteel	TVA	SERC	1, 3, 5, 6									
9.	John Jackson	LGE-KU	SERC	3									
10.	Brad Gordon	PJM	SERC	2									
11.	Randi Heise	Dominion VP	SERC	1, 3, 5, 6									
12.	Dan Roethemeyer	Dynegy	SERC	5									
13.	Jim Case	Entergy	SERC	1, 3, 6									
14.	Bill Thigpen	PowerSouth	SERC	1, 5									
15.	Jake Miller	Dynegy	SERC	5									
16.	Steve Corbin	SERC	SERC	10									
17.	Ron Carlsen	Southern	SERC	1, 3, 5									
18.	Vicky Budreau	Santee Cooper	SERC	1, 3, 5, 9									
19.	Shammara Hasty	Southern	SERC	1, 3, 5									
20.	Melinda Montgomery	Entergy	SERC	1, 3									
21.	Terry Coggins	Southern	SERC	1, 3, 5									
22.	J. T. Wood	Southern	SERC	1, 3, 5									
23.	Antonio Grayson	Southern	SERC	1, 3, 5									
24.	John Troha	SERC	SERC	10									
7.	Group	Steve Rueckert	Western Electricity Coordinating Council										X
No additional members listed.													
8.	Group	Chris Higgins	Bonneville Power Administration	X		X		X	X				

	Additional Member	Additional Organization	Region	Segment Selection
1.	James	Murphy	WECC	1, 3, 5, 6
2.	Edison	Elizeh	WECC	1
3.	David	Kirsch	WECC	1
4.	Ayodele	Idowu	WECC	1
5.	Fran	Halpin	WECC	5
6.	Erika	Doot	WECC	3, 5, 6
7.	Meg	Albright	WECC	1

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
8.	Pamela	Van Calcar	WECC 5										
9.	Group	Robert Rhodes	SPP Standards Review Group		X								

	Additional Member	Additional Organization	Region	Segment Selection
1.	Louis Guidry	Cleco Power	SPP	1, 3, 5
2.	Bryan Harper	Cleco Power	SPP	1, 3, 5
3.	Stephanie Huffman	Cleco Power	SPP	1, 3, 5
4.	Bo Jones	Westar Energy	SPP	1, 3, 5, 6
5.	Tiffany Lake	Westar Energy	SPP	1, 3, 5, 6
6.	Julie Lux	Westar Energy	SPP	1, 3, 5, 6
7.	Fred Meyer	Empire District Electric	SPP	1
8.	Terri Pyle	Oklahoma Gas & Electric	SPP	1, 3, 5
9.	Randy Root	Grand River Dam Authority	SPP	1, 3, 5
10.	Katie Shea	Westar Energy	SPP	1, 3, 5, 6
11.	Bryan Taggart	Westar Energy	SPP	1, 3, 5, 6

10.	Group	Marie Knox	MISO Standards Collaborators		X								

	Additional Member	Additional Organization	Region	Segment Selection
1.	Barbara Kedrowski	We-Energies	RFC	3, 4, 5

11.	Individual	Brent ingebrigtson	LG&E and KU Services	X		X		X	X				
12.	Individual	Jim Eckelkamp	Progress Energy	X		X		X	X				
13.	Individual	Janet Smith, Regulatory Affairs Supervisor	Arizona Public Service Company	X		X		X	X				
14.	Individual	Antonio Grayson	Southern Company	X		X		X	X				
15.	Individual	Robert Blohm	Keen Resources Asia Ltd.								X		
16.	Individual	Michael Falvo	Independent Electricity System Operator		X								
17.	Individual	Joe Tarantino	Sacramento Municipal Utility District	X		X	X	X	X				
18.	Individual	Daniel O'Hearn	Powerex Corp.						X				

Additional Member	Additional Organization	Region	Segment Selection
Mike Goodenough	Powerex Corp.		Seg 6

19.	Individual	Anthony Jablonski	ReliabilityFirst										X

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
20.	Individual	Jeff Harrison	AECI	X		X		X	X				
21.	Individual	Greg Travis	Idaho Power Company	X		X							
22.	Individual	Michael Goggin	American Wind Energy Association								X		
23.	Individual	Thad Ness	American Electric Power	X		X		X	X				
24.	Individual	Chris Mattson	Tacoma Power	X		X	X	X	X				
25.	Individual	John Tolo	Tucson Electric Power	X									
26.	Individual	Kathleen Goodman	ISO New England Inc		X								
27.	Individual	Jay Campbell	NV Energy	X		X	X	X					
28.	Individual	Don Schmit	NPPD	X		X		X					
29.	Individual	Karen Webb	City of Tallahassee					X					
30.	Individual	RoLynda Shumpert	South Carolina Electric and Gas	X		X		X	X				
31.	Individual	Don Jones	Texas Reliability Entity										X
32.	Individual	Nicholas L. Hall	Constellation Energy Control and Dispatch, LLC			X							
33.	Individual	Alice Ireland	Xcel Energy	X		X		X	X				
34.	Individual	Brett Holland	KCP&L	X		X		X	X				
35.	Individual	Laura Lee	Duke Energy	X		X		X	X				
36.	Individual	Kasia Mihalchuk	Manitoba Hydro										
37.	Individual	Francis Monette	Hydro-Québec TransÉnergie										
38.	Individual	John M. Troha	SERC Reliability Corporation										

1. **The BARC SDT has developed two new terms to be used with this standard.**

   Balancing Authority ACE Limit (BAAL): The limit beyond which a Balancing Authority contributes more than its share of Interconnection frequency control reliability risk. This definition applies to a high limit (BAALHigh) and a low limit (BAALLow).

   Reporting ACE: The scan rate values of a Balancing Authority's Area Control Error (ACE) measured in MW as defined in BAL-001 which includes the difference between the Balancing Authority's actual interchange and its scheduled interchange plus its frequency bias obligation plus any known meter error.

   Do you agree with the proposed definitions in this standard? If not, please explain in the comment area below.

Summary Consideration: Many of the commenters disagreed with the definition of Reporting Ace. The drafting team stated that they realized that this definition was more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity.

Several of the commenters did not agree that there needed to be a new definition created and added to the NERC Glossary of Terms for BAAL. The drafting team agreed and removed the definition for BAAL.

A few commenters disagreed with the definition for Net Meter Error. The drafting team explained that the drafting team agrees with your comment concerning Net Metering Error (NME) and they have change the equation to use Interchange Meter Error (IME). Based on comments received from the industry the drafting team has elected to not make any modifications to how the term is defined.

A couple of commenters felt that the equation for Reporting Ace should be removed from the attachment and added to the definition. The drafting team agreed and modified the documents to reflect the suggestion.

One or two of the commenters thought that the drafting team was suggesting to remove the definition of ACE from the NERC Glossary of Terms. The drafting team explained that they were not suggesting to retire the definition for ACE. They were only trying to create a new definition for Reporting ACE.

Organization	Yes or No	Question 1 Comment

Organization	Yes or No	Question 1 Comment
ISO's Standards Review Committee	No	The definition of reporting ACE is nearly identical to the current definition of ACE, but the appendix adds complexity. There should be no need for this new definition. The description of the definition in the attachment is overly prescriptive. It has a redundant and more restrictive requirement for frequency resolution than BAL-005. It also created a new term, Net Metering Error that is more prescriptive than how metering error is corrected for today.
Response: Thank you for your comment. The drafting team realizes that this definition is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity. **The drafting team agrees with your comment concerning Net Metering Error (NME) and they have change the equation to use Interchange Meter Error (IME). Based on comments received from the industry the drafting team has elected to not make any modifications to how the term is defined.**		
ACES Power Marketing Standards Collaborators	No	We question the need for the Reporting ACE definition. There is no explanation anywhere in the documentation for its need. Why is the definition of ACE not satisfactory? The definition is not even consistent with the definition of ACE. The definition of ACE uses net actual interchange and net schedule interchange. While we are sure that the Reporting ACE definition intends for these values to be net values, questions will arise why the word “net” is included in one definition and not the other in a compliance driven world. If the definition remains, we suggest striking everything after Area Control Error. Everything after this is already included in the definition of ACE to which this definition refers. The only difference between the two definitions appears to be that one is “instantaneous” and the other is a “scan rate”. We think “scan rate” is nearly instantaneous and satisfies the definition particularly since it is the only way to measure ACE and considering there are other requirements (BAL-005-0.1b R8) that specify

Organization	Yes or No	Question 1 Comment
		ACE only has to be calculated (which requires scanning of tie-line measurements) once every six seconds. The bottom line is that the definition does not offer additional clarity. Furthermore, we recommend that the ACE definition should be modified to include the ACE calculation from the standard. The equation really should be the definition as it is much more descriptive than the words provided in the definition.
Response: Thank you for your comment. The drafting team agrees with your comment concerning adding the term net to the definition and has added the term. The drafting team realizes that this definition is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity. **The drafting team agrees with your comment concerning adding the calculation and has modified the definition.**		
MRO NSRF	No	The definition of reporting ACE is nearly identical to the current definition of ACE, but the appendix adds complexity. There should be no need for this new definition. The description of the definition in the attachment is overly prescriptive. It has a redundant and more restrictive requirement for frequency resolution than BAL-005. It also created a new term, Net Metering Error that is more prescriptive than how metering error is corrected for today.
Response: Thank you for your comment. The drafting team realizes that this definition is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity. **The drafting team agrees with your comment concerning Net Metering Error (NME) and they have change the equation to use Interchange Meter Error (IME). Based on comments received from the industry the drafting team has elected to not make any modifications to how the term is defined.**		

Organization	Yes or No	Question 1 Comment
Western Electricity Coordinating Council	No	BAAL 1. It is not clear what the phrase “interconnection frequency control reliability risk “means. 2. BAAL should be defined by the formula used just like ACE is defined by components used to calculate ACE Reporting ACE 1. If the existing defnition of ACE in the NERC Glossary is retired, then the proposed definition will be using the undefined term ACE which in the proposed standard is not defined. The definition cannot refer to an undefined term. If the existing definition is not retired the proposed new term and the existing term appear to be the same thing, and the new term would not be necessary. 2. The proposed standard uses a new definition Reporting ACE which is a replacement of the current definition ACE in the BAL-001 standard. While the ACE formula has been renamed as Reporting ACE, all references to ACE in Attachment 1 of BAL-001 and in other NERC Standards have not been changed. The term ACE is used in BAL-002, BAL-003, BAL-004-WECC-1, BAL-005 and IRO standards. 3. The WECC Board of Directors recently approved a WECC Regional Variance to NERC BAL-001-0.1a that would include the Automatic Time Error Correction term in the ACE definition in the Western Interconnection. WECC is in the process of ubmitting this regional variance to NERC for NERC BOT consideration. If approved, the reporting ACE will be different for WECC. The drafting teama needs to be aware of this and take this into account. 4. WECC recommends that all of these issues can be resolve if the new term Reporting ACE is eliminated and the current ACE term is retained.

Organization	Yes or No	Question 1 Comment
Response: Thank you for your comment. **BAAL** **1 & 2 – The drafting team felt that since this term is only used in this standard it is not necessary for it to be included in the NERC Glossary of Terms and has removed it from the standard.** **Reporting ACE** **1- The drafting team is not suggesting to retire the current definition of ACE. It is only recommending a new definition be added, Reporting ACE.** **2- The other standards that use the term ACE will not be modified. The term reporting ACE is presently only used in this standard. The drafting team realizes that this definition is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity.** **3- Each Interconnection will need to review its standards as NERC reliability standards are modified.** **4- The drafting team realizes that this definition is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity.**		
Bonneville Power Administration	No	BPA believes that the definition is subjective and only the formula should be used for the definition.
Response: Thank you for your comment. The drafting team is not sure which definition you are referencing. If it is BAAL the drafting team has removed the definition from the standard. If it is reporting ACE the drafting team believes that since ACE can vary between BAs according to control algorithms it is necessary to define reporting ACE to ensure uniformity.		
MISO Standards Collaborators	No	The creation of a new definition, Reporting ACE, is unnecessary as Area Control Error is already a defined term. Further, the benefit to reliability from the addition of this definition is unclear; indeed, the addition of this definition may actually result in confusion regarding the appropriate measures for reliable performance. Accordingly, there does not appear to be a need for this new definition. Attachment 1 expounds upon the definition of the term Reporting ACE. This

Organization	Yes or No	Question 1 Comment
		description is overly prescriptive, redundant, and more restrictive than the performance obligations provided in complementary Reliability Standards. For example, the use of frequency resolution of 0.0005Hz is more restrictive than is required under BAL-005. Further, the creation of a new term, Net Metering Error, requires utilization of a meter correction factor that is different and more restrictive than the net meter value defined and utilized today (which is an estimate). MISO further notes that the meter error utilized in this standard is referenced and utilized in other BAL standards for which no modifications are currently proposed. MISO cannot support the addition of terms and requirements that may contradict or otherwise confuse Registered Entity obligations under other, impacted Reliability Standards.
Response: Thank you for your comment. The drafting team realizes that this definition is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity. **The drafting team agrees with your comment concerning Net Metering Error (NME) and they have change the equation to use Interchange Meter Error (IME). Based on comments received from the industry the drafting team has elected to not make any modifications to how the term is defined.**		
American Electric Power	No	The definition for the term Balancing Authority ACE Limit (BAAL) implies there is always a reliability risk for exceeding the limit, without taking into consideration relative operating conditions at the time. Merely exceeding an ACE Limit (BAAL) does not always constitute that there is an inherent reliability risk, as that would depend on the actual operating conditions and timing of the occurrence and/or normal frequency characteristics on that operating day. For example: High Frequency prior to an extreme morning load pickup with Net Scheduled Interchange out, and Low Frequency prior to nightly fall off are sometimes a more favorable reliability condition. We recommend changing the text to read “The limit beyond which a Balancing

Organization	Yes or No	Question 1 Comment
		Authority contributes more than its share of Interconnection frequency control's allotted reliability deviation for required measure". We agree with the definition of the term Reporting ACE, however, it should be noted that Balancing Authorities with membership to some Regional Power Pools use an added factor of ACE diversity component in their Reporting ACE beyond what is mentioned.
Response: Thank you for your comment. The drafting team felt that since the term BAAL is only used in this standard it is not necessary for it to be included in the NERC Glossary of Terms and has removed it from the standard. **Each Interconnection or power pool will need to review its standards as NERC reliability standards are modified.**		
Tucson Electric Power	No	There should be an equation or formula included with the definition
Response: Thank you for your comment. The drafting team agrees and has added the equation to the definition.		
ISO New England Inc	No	Please see additional comments provided.
Response: Thank you for your comment.		
NV Energy	No	I agree with the BAAL definition. The Reporting ACE definition is too wordy, ambiguous and confusing. To say "Scan rate values of...ACE" seems redundant. To say "measured in MW defined in BAL-001"---does one really need to define MW? Additionally, I don't see the definition. The ACE definition seems at odds with the equation on page #7. I suggest: "Balancing Authority's Area Control Error (ACE) is the difference between the Balancing Authority's actual interchange and its scheduled interchange plus its frequency bias multiplied by the difference between actual and scheduled frquency plus any known meter error".
Response: Thank you for your comment. The drafting team felt that since the term BAAL is only used in this standard it is not		

Organization	Yes or No	Question 1 Comment
necessary for it to be included in the NERC Glossary of Terms and has removed it from the standard. The drafting team realizes that this definition is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity. The drafting team is not suggesting to retire the current definition of ACE. It is only recommending a new definition be added, Reporting ACE.		
City of Tallahassee	No	The definition for BAAL introduces a new concept of "Interconnection frequency control reliability risk". This appears to be managing risk while the standard provides "cut and dry" limits. Suggest: "The limit beyond which a Balancing Authority contributes more than its share of Interconnection frequency deviation. This definition applies to a high limit (BAALHigh) and a low limit (BAALLow)."
Response: Thank you for your comment. The drafting team felt that since the term BAAL is only used in this standard it is not necessary for it to be included in the NERC Glossary of Terms and has removed it from the standard.		
Xcel Energy	No	The definition of Reporting ACE appears to be overly prescriptive. The WECC has a modified ACE that is working its way through the process to make it clear that the ACE for compliance purposes would become the WECC defined ACE, not the NERC defined ACE. The drafting team needs to take this difference into account and the current draft standard does not account for that modification. The drafting team also should take this opportunity to include in the definition further clarity related to concepts such as ACE Diversity Interchange, Dynamic Schedules, Pseudo-ties and Automatic Time Error Correction.
Response: Thank you for your comment. The variance you are describing is included in this draft of the standard. The drafting team believes that the terms you are referencing are dealt with in reference guides either in place or under		

Organization	Yes or No	Question 1 Comment
development and are outside the scope of this project.		
Duke Energy	No	Duke Energy agrees with the Balancing Authority ACE Limit definition. Duke Energy does not support the use of the new term "Reporting ACE" as we are unaware of any issues to date created by the current defined term in the standard. It is understood that the "instantaneous" value of ACE is the current scan, as that is the ACE made available to the operator in real-time. The Reporting ACE definition adds unnecessary confusion and should therefore not be developed. ACE should be substituted in any instance where "Reporting ACE" is used in these standards. If the drafting team moves forward with its proposal to use "Reporting ACE", Duke Energy believes that the Standards and supporting documentation need to clarify that any reference to "clock-minute ACE" means the clock-minute average of the Reporting ACE.
Response: Thank you for your comment The drafting team felt that since the term BAAL is only used in this standard it is not necessary for it to be included in the NERC Glossary of Terms and has removed it from the standard **The drafting team realizes that this definition of reporting ACE is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity.**		
Manitoba Hydro	No	In attachment 1, the F_A (Actual Frequency) term is defined and indicates a resolution of ±0.0005 Hz. This should be changed to align with the BAL-005-0.1b R17 that indicates a frequency resolution ≤ 0.001 Hz. Additionally, the acronym "ACE" is defined in the Reporting ACE definition but not in the BAAL definition. It should be defined at each usage or at none.
Response: Thank you for your comment. The drafting team believes that BAL-001 speaks to the sample rate and not the accuracy of the transducers as detailed in BAL-005. However, the drafting team has removed the resolution you have		

Organization	Yes or No	Question 1 Comment
referenced from the draft standard. **The drafting team felt that since the term BAAL is only used in this standard it is not necessary for it to be included in the NERC Glossary of Terms and has removed it from the standard.**		
Associated Electric Cooperative Inc, JRO00088	Yes	Reporting ACE definition: Replace: "the difference between the Balancing Authority's actual interchange and its scheduled interchange plus its frequency bias obligation plus any unknown meter error" With: "control-error consideration of: interchange, frequency, and interchange-metering errors."Rationale: This simplified description may explain more without restating the equation.
Response: Thank you for your comment. The drafting believes that since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity. The drafting team has added the calculation to the definition.		
LG&E and KU Services	Yes	LG&E and KU Services suggest removing "reliability risk" from the end of the first sentence in the BAAL definition
Response: Thank you for your comment. The drafting team felt that since the term BAAL is only used in this standard it is not necessary for it to be included in the NERC Glossary of Terms and has removed it from the standard.		
Idaho Power Company	Yes	Although WECC is pursuing a Regional Variation to include the WECC ATEC term into the reporting ACE which is needed.
Response: Thank you for your comment. The variance you are describing is included in this draft of the standard.		
Texas Reliability Entity	Yes	There is an existing definition for "Control Performance Standard" which may need to be modified or deleted. Additionally, it may be better to end the definition after the phrase "as defined in BAL-001," as using arithmetic terms (difference and plus) may not

Organization	Yes or No	Question 1 Comment
		appear to match the calculation in Attachment 1.
Response: Thank you for your comment. The drafting team believes that the current definition for Control Performance Standard is still acceptable and no modification is necessary. **The drafting team has removed the reference to the standard from the definition and added the calculation.**		
SERC OC Standards Review Group	Yes	
SPP Standards Review Group	Yes	
Progress Energy	Yes	
Arizona Public Service Company	Yes	
Hydro-Québec TransÉnergie	Yes	
Southern Company	Yes	
Keen Resources Asia Ltd.	Yes	
Independent Electricity System Operator	Yes	
Sacramento Municipal Utility District	Yes	
Powerex Corp.	Yes	
SERC Reliability Corporation	Yes	
AECI	Yes	

Organization	Yes or No	Question 1 Comment
American Wind Energy Association	Yes	
Tacoma Power	Yes	
South Carolina Electric and Gas	Yes	
Constellation Energy Control and Dispatch, LLC	Yes	

2. The SDT has modified the definition for the term Interconnection. Please view the new definition shown in redline on the Unofficial Word version posted on the project page which shows the changes proposed. http://www.nerc.com/filez/standards/Project2010-14.1_Phase_1_of_Balancing_Authority_RBC.html

Interconnection: When capitalized, any one of the four major electric system networks in North America: Eastern, Western, Texas and Quebec.

Do you agree with this new definition for Interconnection? If not, please explain in the comment area below.

Summary Consideration: Several of the commenters felt that modifying the definition for Interconnection was outside the scope of the drafting team's SAR. The drafting team disagrees with you regarding the SAR. The SAR states that the drafting team is to address the directives from FERC Order 693. One of these directives was to establish a continent wide contingency reserve policy. Since Quebec is part of the continent therefore the term Interconnection should be corrected.

Many of the commenters wanted the term "Texas" changed to "ERCOT". The drafting team agreed and made the necessary modifications to the definition.

Organization	Yes or No	Question 2 Comment
ISO's Standards Review Committee	No	While we agree that these four entities comprise the four major Interconnections, the term is used scores of times in other standards. It is beyond the scope of this drafting team to redefine expectations of other standards.
Response: Thank you for your comment. The drafting team disagrees with you regarding the SAR. The SAR states that the drafting team is to address the directives from FERC Order 693. One of these directives was to establish a continent wide contingency reserve policy. Since Quebec is part of the continent therefore the term Interconnection should be corrected.		
Western Electricity Coordinating Council	No	Texas should be replaced with ERCOT. A small portion of the state of Texas resides in the Western Interconnection. The use of the word Texas may be confusing because of this.

Organization	Yes or No	Question 2 Comment
Response: Thank you for your comment. The drafting team agrees and has made the necessary modification.		
Bonneville Power Administration	No	BPA understands that this is an update to the existing definition, but it is not a definition. This is simply identifying the interconnections.
Response: Thank you for your comment.		
MISO Standards Collaborators	No	While MISO agrees that these four entities comprise the four major Interconnections, the term is used scores of times in other standards. It is beyond the scope of this drafting team to redefine expectations of other standards.
Response: Thank you for your comment. The drafting team disagrees with you regarding the SAR. The SAR states that the drafting team is to address the directives from FERC Order 693. One of these directives was to establish a continent wide contingency reserve policy. Since Quebec is part of the continent therefore the term Interconnection should be corrected.		
Texas Reliability Entity	No	Please use "ERCOT" (not "Texas") as the name of the Interconnection, because it does not cover the entire state of Texas. Note that "ERCOT Interconnection" is used in Attachment 1.
Response: Thank you for your comment. The drafting team agrees and has made the necessary modification.		
Xcel Energy	No	Not all of Texas is in the ERCOT or Texas Interconnection, therefore the proposed change is likely to cause confusion. As an entity that has a Balancing Authority Area operating in part of the state of Texas, we can attest to the fact that there is already enough confusion in the industry related to the difference between electric service in the state of Texas and the Interconnection that operates wholly within the boundaries of Texas.
Response Thank you for your comment. The drafting team agrees and has made the necessary modification.		
MRO NSRF	Yes	While the NSRF agrees with these four entities comprise the four major

Organization	Yes or No	Question 2 Comment
		Interconnections, the term is used scores of times in other standards. It is beyond the scope of this drafting team to redefine expectations of other standards.
Response: Thank you for your comment. The drafting team disagrees with you regarding the SAR. The SAR states that the drafting team is to address the directives from FERC Order 693. One of these directives was to establish a continent wide contingency reserve policy. Since Quebec is part of the continent therefore the term Interconnection should be corrected.		
Independent Electricity System Operator	Yes	While we agree with these four entities comprise the four major Interconnections, the term is used scores of times in other standards. It is beyond the scope of this drafting team to redefine expectations of other standards.
Response: Thank you for your comment. The drafting team disagrees with you regarding the SAR. The SAR states that the drafting team is to address the directives from FERC Order 693. One of these directives was to establish a continent wide contingency reserve policy. Since Quebec is part of the continent therefore the term Interconnection should be corrected.		
Tucson Electric Power	Yes	Somewhat vague definition. It's more identifying the interconnections.
Response: Thank you for your comment.		
Duke Energy	Yes	Though this definition appears appropriate, if the “Texas” Interconnection includes operation of areas outside of the state of Texas, another name should be considered.
Response: Thank you for your comment. The drafting team agrees and has made the necessary modification.		
Manitoba Hydro	Yes	
Hydro-Québec TransÉnergie	Yes	
Associated Electric Cooperative Inc, JRO00088	Yes	

Organization	Yes or No	Question 2 Comment
ACES Power Marketing Standards Collaborators	Yes	
SERC OC Standards Review Group	Yes	
SPP Standards Review Group	Yes	
Progress Energy	Yes	
SERC Reliability Corporation	Yes	
Arizona Public Service Company	Yes	
Southern Company	Yes	
Keen Resources Asia Ltd.	Yes	
Sacramento Municipal Utility District	Yes	
Powerex Corp.	Yes	
AECI	Yes	
Idaho Power Company	Yes	
American Wind Energy Association	Yes	

Organization	Yes or No	Question 2 Comment
American Electric Power	Yes	
Tacoma Power	Yes	
ISO New England Inc	Yes	
NV Energy	Yes	
City of Tallahassee	Yes	
South Carolina Electric and Gas	Yes	
Constellation Energy Control and Dispatch, LLC	Yes	

3. The proposed Purpose Statement for the draft standard is:

To control Interconnection frequency within defined limits in support of interconnection frequency.
Do you agree with this purpose statement? If not, please explain in the comment area below.

Summary Consideration: Several of the commenter disagreed with the use of the term "in support of interconnection frequency" in the purpose statement. The drafting team stated that they agreed with their comment. This further explained that this was an error in the comment report.

A few of the commenters wanted to add the term "steady-state" to the purpose statement. The drafting team explained that frequency is always dynamic. The drafting team believes that adding the term steady-state would require additional clarity as to the meaning of steady-state and could create ambiguity.

A couple of commenters wanted to add the phrase "by balancing real power supply and demand in real-time" to the purpose statement. The drafting team stated that they agreed that controlling interconnection frequency is accomplished by balancing power supply and demand. However, the drafting team believes that adding the additional words does not provide any additional clarity.

Organization	Yes or No	Question 3 Comment
Associated Electric Cooperative Inc, JRO00088	No	AECI agrees with the posted for ballot Project_2010-14-1_BAL-001-1_Standard_Clean_20120604_final_rev1 copy, where "in support of interconnection frequency." is deleted.
Response: Thank you for your comment. The drafting team agrees with your comment. This was an error in the comment report.		
ACES Power Marketing Standards Collaborators	No	We think the purpose statement should be modified to state that it is steady-state frequency that is being controlled. Otherwise, transient frequencies are included which is problematic considering even stable swings in frequency could easily exceed the frequency bounds established in the standard.

Organization	Yes or No	Question 3 Comment
Response: Thank you for your comment. The drafting team believes that frequency is always dynamic. The drafting team believes that adding the term steady-state would require additional clarity as to the meaning of steady-state and could crate ambiguity.		
SERC Reliability Corporation; SERC OC Standards Review Group	No	Delete “in support of interconnection frequency”.
Response: Thank you for your comment. The drafting team agrees with your comment. This was an error in the comment report.		
Bonneville Power Administration	No	The purpose statement referenced above does not match the standard. The standard states: “To control Interconnection frequency within defined limits”. It does not include “in support of interconnection frequency”. Please clarify which one is correct.
Response: Thank you for your comment. The drafting team agrees with your comment. This was an error in the comment report.		
MISO Standards Collaborators	No	While MISO agrees with the Purpose provided in the standards, it notes that the phrase defined above is not consistent with the Purpose provided in the version of BAL-001-1 posted for comment.
Response: Thank you for your comment. The drafting team agrees with your comment. This was an error in the comment report.		
LG&E and KU Services	No	The posted BAL-001-1 shows the Purpose Statement as:Purpose: To control Interconnection frequency within defined limits. The purpose statement in the draft standard is preferred over the Purpose Statement as shown in Question 3.
Response: Thank you for your comment. The drafting team agrees with your comment. This was an error in the comment report.		
Progress Energy	No	It is not clear that this Standard aids in the control of frequency within defined limits, particularly for transient frequency deviations to avoid UFLS operation. Conclusive results of the BAAL field trial are not provided in the background

Organization	Yes or No	Question 3 Comment
		document. If the industry is to make the move to make this change, there should be evidence provided that this action will aid in better frequency control for the Interconnections.
Response: Thank you for your comment. The drafting team believes that transient frequency deviations to avoid UFLS are addressed in the proposed BAL-003-1 standard. **The drafting team conducts a monthly call to discuss the prior month operation using BAAL. These monthly results are posted on the NERC website. The BAAL field trial will continue in effect until the date that a new standard goes into effect. The drafting team will be preparing a report based on the field trial results that will be posted prior to the FERC filing for this draft standard.**		
Powerex Corp.	No	No, the Purpose Statement is inadequate. The purpose of the standard should be to control BAA ACE within defined limits in support of Interconnection Frequency, and to prevent BAA ACE from having a detrimental impact to other entities on the grid. In Order No. 890, the Federal Energy Regulatory Commission (FERC or the Commission) recognized the potential for inadvertent energy flows between adjacent BAs to both jeopardize reliability and to cause undue harm to customers on the grid. Such inadvertent energy flows are driven by the size of each BAAs ACE, as primarily contained by CPS2 under the current BAL-001, and the new proposed BAL-001 standard. Powerex believes that the development of the BAL-001 standard based on the current purpose statement will allow entities to create deliberate inadvertent flows within the standards boundaries, without regard to the impact to transmission customers on the grid. This may result in substantial curtailments to transmission customers in direct contravention of the Commission's open access transmission principles.
Response: Thank you for your comment. The drafting team understands your concern. However, the drafting team does not know of any analysis that has been done that directly ties the use of BAAL with the problems that you have identified. **BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but**		

Organization	Yes or No	Question 3 Comment
restrict those that do have a detrimental effect on reliability.		
AECI	No	Delete “in support of interconnection frequency”.
Response: Thank you for your comment. The drafting team agrees with your comment. This was an error in the comment report.		
Tucson Electric Power	No	This purpose statement does not match the purpose statement in the proposed Standard.
Response: Thank you for your comment. The drafting team agrees with your comment. This was an error in the comment report.		
NV Energy	No	My suggestion: "To control Interconnection frequency within defined limits."
Response: Thank you for your comment. The drafting team agrees with your comment. This was an error in the comment report.		
City of Tallahassee	No	The City of Tallahassee (TAL) is unsure of the clarity of this purpose statement.Suggest: To control individual Balancing Area ACE deviation within defined limits in support of interconnection frequency.
Response: Thank you for your comment. The drafting team disagrees with your suggestion. The drafting team believes that this standard should address Interconnection frequency which is achieved by individual BA control performance.		
South Carolina Electric and Gas	No	South Carolina Electric and Gas supports the comments submitted by the SERC OC Standards Review Group
Response: Thank you for your comment. The drafting team believes that frequency is always dynamic. The drafting team believes that adding the term steady-state would require additional clarity as to the meaning of steady-state and could crate ambiguity.		
Texas Reliability Entity	No	We suggest a more precise purpose statement as follows: “To control Interconnection frequency within defined limits by balancing real power supply and demand in real-time.”

Organization	Yes or No	Question 3 Comment
Response: Thank you for your comment. The drafting team agrees that controlling interconnection frequency is accomplished by balancing power supply and demand. However, the drafting team believes that adding the additional words does not provide any additional clarity.		
Xcel Energy	No	The purpose does not make sense. In order to make it clearer, end the sentence after the word “limits.” With this change, it would also be acceptable to add the phrase “during normal operations” after the word “limits”.
Response: Thank you for your comment. The drafting team agrees with your comment. This was an error in the comment report.		
Duke Energy	No	The Purpose Statement in the draft differs from what is presented in question 3 and states “To control Interconnection frequency within defined limits”. The purpose stated in this question is preferable, with capitalization of the second use of interconnection. Add “in support of Interconnection frequency” to the proposed Purpose Statement. Additionally, the Background document uses the term “predefined limits” which is a more accurate description.
Response: Thank you for your comment. This was an error in the comment report. However, based on comments received from the industry the drafting team has decided to not make the modification you suggest.		
Keen Resources Asia Ltd.	Yes	Delete "in support of interconnection frequency". It's redundant, and childishly repetitive of the same term. You don't control something to within limits in order to undermine (= not support) those limits!
Response: Thank you for your comment. The drafting team agrees with your comment. This was an error in the comment report.		
Constellation Energy Control and Dispatch, LLC	Yes	As mentioned in later comments, the specific purpose of R2 seems to be the development of a boundary for ACE deviation, with consideration given to frequency support. Especially given the manner in which R2 attempts to control for frequency,

Organization	Yes or No	Question 3 Comment
		its intent is clearly not the simple support or control of frequency.
Response: Thank you for your comment.		
ISO's Standards Review Committee	Yes	
Manitoba Hydro	Yes	
MRO NSRF	Yes	
Hydro-Québec TransÉnergie	Yes	
SPP Standards Review Group	Yes	
Arizona Public Service Company	Yes	
Southern Company	Yes	
Independent Electricity System Operator	Yes	
Sacramento Municipal Utility District	Yes	
Idaho Power Company	Yes	
American Wind Energy Association	Yes	

Organization	Yes or No	Question 3 Comment
American Electric Power	Yes	
Tacoma Power	Yes	
ISO New England Inc	Yes	

4. **The BARC SDT has developed Requirement R1 to measure how well a Balancing Authority is able to control its generation and load management programs, as measured by its Area Control Error (ACE), to supports its Interconnection's frequency over a rolling one year period.**

   R1. Each Balancing Authority shall operate such that the Balancing Authority's Control Performance Standard 1 (CPS1), as calculated in Attachment 1, is greater than or equal to 100% for the applicable Interconnection in which it operates for each 12 month period, evaluated monthly, to support interconnection frequency.

   Do you agree with this Requirement? If not, please explain in the comment area below.

Summary Consideration: many of the commenters thought that the present wording of Requirement R1 was sufficient and should not be changed. The drafting team stated that they had only made minor modifications to the proposed requirement from the present requirement. The wording for Requirement R1 is virtually the same as it is today. The drafting team does not know of any issues that have arisen with the present wording.

A few of the commenters disagreed with the phrase "to support Interconnection Frequency". The drafting team agreed with the commenter and removed the language from the requirement.

One commenter expressed concern with the use of Reporting ACE and that some of the equations were still using ACE. The drafting team explained that the equations had been changed to use Reporting ACE. The drafting team further stated that since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity.

One commenter questioned whether an attachment was considered part of a standard and therefore enforceable. They also were unsure of how modifications to an attachment would be handled. The drafting team stated that the attachment was part of the standard and is therefore enforceable. To make any modifications to an attachment you must go through the same process (the Standard development Process) as if you were changing a requirement.

Another commenter thought that referencing an attachment in the requirement would create requirements within the attachment. The drafting team explained that the attachment was not creating any additional requirements. The attachment only provides the calculation methodology. The drafting team believes that the requirements should only state what an entity is supposed to do, not how to calculate something.

Organization	Yes or No	Question 4 Comment
Western Electricity Coordinating Council	No	1. The phrase "to support interconnection frequency" does not add anything to the requirement and should be deleted. If a BA barely missed in one month but was compliant for the 12-month period, would that BA fail to support interconnection frequency? 2. In Attachment 1 the definitions for Net Interchange Actual and Net Interchange Schedule have been changed but they are not included in the definition section of the standard. The SDT needs to clarify if these new definitions will replace the existing approved definitions in the glossary 3. In attachment 1 the term NME in the ACE equation replaces the existing term IME. The definition itself has not changed significantly but just the acronym. WECC has Regional Standard BAL-004-WECC-1 that refers to the term IME and recommends that the SDT retain the existing term and definition of IME. 4. The attachment 1 defines Reporting ACE and essentially removing the definition for the term "ACE" but the formulas in attachment 1 still refer to ACE. WECC recommends replacing the proposed Reporting ACE with ACE which also addresses the inconsistency with all other NERC standards that refer to the term ACE. 5. It is not clear why the calculation for CPS1 was moved from the standard to the attachment. Are attachments part of the standard and if so must they go through the standards development procedure if a modification of the equation is made? Will the industry be given a chance to comment/ballot on any changes made to the formulas if they are not part of the standard. What process will be used to change content in the attachment 1 and will the industry have opportunities to comment and ballot on the changes?
Response: Thank you for your comment. **1) The drafting team agrees and has removed the language.**		

Organization	Yes or No	Question 4 Comment
2) The drafting team is not attempting to modify the existing definitions. The terms have been changed in the attachment. **3) The drafting team agrees and has made the modification to now use IME.** **4) The equations have been changed to use Reporting ACE. The drafting team realizes that this definition of reporting ACE is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity.** **5) The attachment is part of the standard and is therefore enforceable. To make any modifications to an attachment you must go through the same process (the Standard development Process) as if you were changing a requirement.**		
Bonneville Power Administration	No	BPA favors the previous version of the requirement. Referring to the attachment creates many requirements within one identified requirement without breaking them out. BPA believes there should be only one requirement within each of the identified requirements.
Response: Thank you for your comment. The drafting team disagrees with your comment. The attachment does not create any additional requirements. The attachment only provides the calculation methodology. The drafting team believes that the requirements should only state what an entity is supposed to do, not how to calculate something.		
MISO Standards Collaborators	No	MISO agrees that performance should be evaluated using a 12 month period evaluated on a monthly basis, but requests clarification that substandard performance in one month would not result in many months of off-normal performance. More specifically, because the inclusion of one month of off-normal performance apparently would be carried through multiple monthly calculations, the impact of that one month of off-normal performance would be retained until it "rolls out" of the time frame required for calculation of the average. Accordingly, a Balancing Authority's performance could be impacted for a significantly longer period of time than the time period for which performance was actually impacted. Additionally, MISO notes that the language utilized in R1 indicates only the requirement to utilize a 12-month period, but does not prescribe that the time period be a "rolling twelve month" period as is indicated in the VSL section or as the "most

Organization	Yes or No	Question 4 Comment
		recent consecutive twelve months" as is indicated in Attachment 1. MISO suggests that all language in the standard regarding the twelve month period be standardized to ensure that Registered Entity obligations are clear and unambiguous.
Response: Thank you for your comment. The drafting team has only made minor modifications to the proposed requirement from the present requirement. The wording for Requirement R1 is virtually the same as it is today. The drafting team does not know of any issues that have arisen with the present wording. The present requirement does not state a rolling 12-months. The drafting team has modified the attachment to use the same language throughout.		
Tucson Electric Power	No	There appears to be no change in CPS1 calculations or requirements so the current BAL-001-0.1a is preferred.
Response: Thank you for your comment. The drafting team has only made minor modifications to the proposed requirement from the present requirement. The wording for Requirement R1 is virtually the same as it is today.		
ISO New England Inc	No	We believe that the frequency model and its use of 3*Epsilon for frequency trigger limits has significant shortcomings. The level of reliability targeted and achieved is a function of underfrequency relay settings, interconnection frequency response, and the size and expected outage rate of the design contingency(s) for which protection is needed. 3*Epsilon is not sensitive to these values or changes in them over time. It is not coordinated with the model in the Frequency Response Standard under development, which does address these sensitivities. We are concerned that CPS 1 alone will not address adequately the time of day short term frequency excursions observed on the Eastern Interconnection. Additionally, we continue to have reliability concerns with the BAAL limits not accounting for large ACE excursions and the possibility for an increase in transmission limit exceedences associated with such operation. We believe the Interconnection will be further exposed due to the lack of ACE bounding to somehow reflect transmission limits, and continue to believe that CPS 2 is a more reliable metric.

Organization	Yes or No	Question 4 Comment
Response: Thank you for your comment. The drafting team assumes you are commenting on BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability **The drafting team has not seen any issues concerning the "time of day short term frequency excursions" during the field trial.** **The drafting team has not seen any issues that you are describing occur during the field trial that can be directly attributable to the use of BAAL.**		
Xcel Energy	No	The last phrase "to support interconnection frequency" makes the requirement unclear. Does this language mean that frequency is not allowed to get outside of defined parameters mean that there has been a violation of the standard by an entity within the interconnection? Please delete that phrase so the requirement is clear and concise.
Response: Thank you for your comment. The drafting team agrees and has removed the language.		
ISO's Standards Review Committee	Yes	1)While we agree that the 12 month rolling average performance is evaluated monthly, that does not mean that substandard performance in one month should result in many months of repeat violations until that bad month rolls out the average. Non-compliance should only accrue if the BA is not under a mitigation plan and has new months of non-compliant performance. 2)The purpose of averaging is to account for both the good and bad performances experienced over the 12 months in question. We suggest that the SDT develop a criterion that identifies a given month performance as being out of limits and that the performance is so good or so bad that the monthly value either be dropped from the averaging or it be substituted with the limiting value.
Response: Thank you for your comment. The drafting team has only made minor modifications to the proposed requirement from the present requirement. The wording for Requirement R1 is virtually the same as it is today. The drafting team does not know of any issues that have arisen with the present wording. The present requirement does not state a rolling 12-months. The drafting		

Organization	Yes or No	Question 4 Comment
team has modified the attachment to use the same language throughout.		
Manitoba Hydro	Yes	Although Manitoba Hydro agrees with this Requirement, we suggest the following clarifications to the Requirement wording. The words 'as calculated in Attachment 1' should be replaced with 'calculated in accordance with Attachment 1' for clarity. The reference to 'it' should specify the Balancing Authority for clarity.
Response: Thank you for your comment. The drafting team agrees and has modified the requirement accordingly.		
Associated Electric Cooperative Inc, JRO00088	Yes	AECI agrees with this existing and unmodified requirement.
Response: Thank you for your comment.		
ACES Power Marketing Standards Collaborators	Yes	We thank the drafting team for making it perfectly clear that only the rolling 12 month CPS1 calculation is subject to compliance and not the one month calculation.
Response: Thank you for your comment.		
MRO NSRF	Yes	While the NSRF agrees that the 12 month rolling average performance is evaluated monthly, that does not mean that substandard performance in one month should result in many months of repeat violations until that bad month rolls out the average. Non-compliance should only accrue if the BA is not under a mitigation plan and has new months of non-compliant performance.
Response: Thank you for your comment. The drafting team has only made minor modifications to the proposed requirement from the present requirement. The wording for Requirement R1 is virtually the same as it is today. The drafting team does not know of any issues that have arisen with the present wording. The present requirement does not state a rolling 12-months. The drafting team has modified the attachment to use the same language throughout.		
SERC OC Standards Review Group	Yes	This is an existing requirement and was not modified by the standard drafting team.

Organization	Yes or No	Question 4 Comment
Response: Thank you for your comment.		
South Carolina Electric and Gas	Yes	South Carolina Electric and Gas supports the comments submitted by the SERC OC Standards Review Group
Response: Thank you for your comment.		
SPP Standards Review Group	Yes	
Hydro-Québec TransÉnergie	Yes	
Arizona Public Service Company	Yes	
Southern Company	Yes	
Keen Resources Asia Ltd.	Yes	
pwx	Yes	
Independent Electricity System Operator	Yes	
Sacramento Municipal Utility District	Yes	
Powerex Corp.	Yes	
AECI	Yes	
Idaho Power Company	Yes	

Organization	Yes or No	Question 4 Comment
American Wind Energy Association	Yes	
American Electric Power	Yes	
Tacoma Power	Yes	
NV Energy	Yes	
City of Tallahassee	Yes	
Texas Reliability Entity	Yes	
Constellation Energy Control and Dispatch, LLC	Yes	
Duke Energy	Yes	

5. **The BARC SDT has developed Requirement R2 to enhance the reliability of each Interconnection by maintaining frequency within predefined limits under all conditions.**

   R2. Each Balancing Authority shall operate such that its clock-minute average of Reporting ACE does not exceed for more than 30 consecutive clock-minutes its clock-minute Balancing Authority ACE Limit (BAAL), as calculated in Attachment 2, for the applicable Interconnection in which it operates to support interconnection frequency..

   Do you agree with this Requirement? If not, please explain in the comment area below.

Summary Consideration: Several commenters felt that using BAAl has caused increased inadvertent flows and transmission issues. The drafting team stated that they had not seen any issues that you are describing occur during the field trial that can be directly attributable to the use of BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.

A few of the commenters wanted to change the equations for BAAL from using 60 Hz to use Scheduled Frequency. The drafting team agreed and made the necessary modifications.

A couple of the commenters disagreed with the phrase "to support Interconnection Frequency". The drafting team agreed with the commenter and removed the language from the requirement.

A few of the commenters felt that BAs would operate in a manner that would allow them to be non-compliant for a large part of the 30-minute window used by BAAL and that they had seen this operation used by BAs in the west. The drafting team explained that to operate in the manner they had described would be a very high risk method of operation. The drafting team believes that the performance of the BAs would not become worse but would in fact be better if there if this standard was enforceable and there were compliance penalties involved.

A couple of other commenters were concerned that a small BAs operation could be more restrictive under BAAL. The drafting team stated that they were aware of the concern identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs.

One commenter felt that the elimination of CPS2 could have a detrimental impact on reliability when frequency is in the opposite direction. The drafting team stated that neither BAAL nor CPS2 guarantees that a BA whose generation is in a direction

that supports interconnection frequency will not result in transmission issues. BAs with large ACE during periods when transmission issues are present should be addressed by the RC.

Organization	Yes or No	Question 5 Comment
Associated Electric Cooperative Inc, JRO00088	No	AECI is fine with the wording under R2, but not strongly recommends that Attachment 2 be changed as follows: Replace: "60 Hz" or "60"With: "Fs" And reinstate: the earlier Fs definition Rationale: 1) As currently drafted, this standard penalizes BAs who are complying with directed time-error corrections, 2) This draft was only appropriate when our industry believed that time-error corrections would be retired, and 3) any concern, about time-error corrections being so large that they risk UFL first-tier margins, should be addressed by exercising smaller magnitude corrections for longer periods of time.
Response: Thank you for your comment. The drafting team agrees and has made the necessary modifications.		
Hydro-Québec TransÉnergie	No	In HQT's fielt trial, frequency limits were defined from 59.9 Hz to 60.1Hz. The proposed methodology in Appendix 2 does not reflect those values since the 3*epsilon methodology leads to 59.937 Hz to 60.063 Hz frequency limits.
Response: Thank you for your comment. The drafting team acknowledges that your field trial is conducted using different limits. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.		
Northeast Power Coordinating Council	No	As with BAL-013-1, should "clock-minutes" be replaced with "minutes"?

Organization	Yes or No	Question 5 Comment
Response: Thank you for your comment. The drafting team believes that "clock-minutes" is a more descriptive term.		
Western Electricity Coordinating Council	No	1. The phrase "to support interconnection frequency" does not add anything to the requirement and should be deleted. 2. It is not clear why the calculations for BAAL are included in attachment 2. Are attachments part of the standard and if so must they go through the standards development procedure if a modification of the equation is made? Will the industry be given a chance to comment/ballot on any changes made to the formulas if they are not part of the standard. What process will be used to change content in the attachment 1 and will the industry have opportunities to comment and ballot on the changes?
Response: Thank you for your comment. **1) The drafting team agrees and has removed the language.** **2) The attachment is part of the standard and is therefore enforceable. To make any modifications to an attachment you must go through the same process (the Standard development Process) as if you were changing a requirement.**		
Bonneville Power Administration	No	BPA disagrees with the statement in the question which says "enhance the reliability". Referring to the attachment creates many requirements within one identified requirement without breaking the out. BPA believes there should be only one requirement within each of the identified requirements.
Response: Thank you for your comment. The drafting team understands your disagreement with the question but cannot provide a response without further information. **The drafting team disagrees with your comment. The attachment does not create any additional requirements. The attachment only provides the calculation methodology. The drafting team believes that the requirements should only state what an entity is supposed to do, not how to calculate something.**		

Organization	Yes or No	Question 5 Comment
SPP Standards Review Group	No	We are concerned about not being able to meet the BAAL criteria during certain contingency events exempted in BAL-002-2. For example, in the existing BAL-001-0.1a, CPS2 is a monthly average value whereby not totally covering a multiple contingency event could be exonerated at the end of the month provided control for the remainder of the month was sufficient to bring the monthly value to at least 90%. With BAAL, we only have a 30-minute window of forgiveness which could create problems, making BAAL a tighter control parameter. We would suggest at least an exemption for BAAL compliance during events whereby multiple contingencies cause the total generation loss to be greater than a BA's or RSG's MSSC.
Response: Thank you for your comment. The drafting team believes that this standard is dealing with regulating reserves and not deployment of contingency reserves. The drafting team has not seen the issue that you are describing occur during the field trial that can be directly attributable to the use of BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.		
MISO Standards Collaborators	No	The proposed changes in BAL-003 with regard to variable bias (no floor on variable bias) open the opportunity for gaming R2.
Response: Thank you for your comment. The drafting team disagrees with your comment. The latest developments in BAL-003 provide minimum values for Frequency Bias settings when variable bias is used in multi-BA interconnections.		
Arizona Public Service Company	No	AZPS has not been convinced that the RBC is a better form of control then what is currently in place. Yes on VRFs Since the RBC Field Trial began the WECC average frequency deviation has been increasing.The RBC Field Trial results are not an accurate reliability assessment as not all participating Balancing Area's Energy Management Systems have CPS1-only control capability and, thus, are not fully participating.CPS2 is designed to limit a Balancing Area's unscheduled power flows and does not have a frequency component - that is what CPS1 is designed to measure. The new BAAL standard will

Organization	Yes or No	Question 5 Comment
		allow far more unscheduled power flows when the Interconnection frequency remains near nominal, which it predominately does. CPS2 allows a Balancing Area to be non-compliant for 72 hours (10%) each month. Under the proposed BAAL standard, a Balancing Area can be non-compliant twenty-nine minutes of each 30 minute period which is 696 hours (96%) per month. This will be taken advantage of to the detriment of reliability.
Response: Thank you for your comment. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability **The drafting team will continue to evaluate results from the field trial until this standard has become effective.** **To operate in the manner you have described would be a very high risk method of operation. The drafting team believes that the performance of the BAs would not become worse but would in fact be better if there if this standard was enforceable and there were compliance penalties involved.**		
Powerex Corp.	No	No. The standard is inadequate. The requirement will allow BA's to operate in a way that could significantly increase risk to the interconnection, for up to 30 minutes, without penalty. Worse, it will allow BA's to "sawtooth": operate outside the BAAL limit for extended periods of time (up to 30 minutes), change operations for as little as one minute to bring their ACE back into the BAAL limit to reset the 30 minute clock, and then again start operating outside the BAAL limit, and do so cyclically, for extended periods. This behavior was exhibited to some extent by several BAsduring the field trial, so there should be every expectation that this type of behavior will continue, if not spread and worsen, if this new standard was put in place. In the Background Document for the standard the drafting team pointed out that CPS2 "... allows significant hours when a Balancing Authority's ACE values are unbounded." Because R2 of the proposed standard will allow BAs to cyclically operate outside the BAAL limit as described above, the problem of BA's operating with an unbounded ACE could actually become worse under the proposed standard, not better.

Organization	Yes or No	Question 5 Comment
		Powerex notes that no technical justification has been put forward as to why a BAA should be able to operate outside the BAAL limit for 30 minutes. We recommend that the drafting team consider a shorter period (e.g. 5 minutes). As well, to prevent the sawtoothing behavior, Powerex recommends that a monthly maximum be set on the number of times a BAA can exceed the BAAL limit (e.g. 5 times per month). Another concern is that the requirement will allow unlimited unscheduled flow, across interties when the actual system frequency is close to the scheduled frequency. There seems to be a disregard for the fact that unscheduled flows can have a significant detrimental impact on scheduled flows. Curtailments to scheduled flows is one of the main tools used to keep the system operating within limits during period of high unscheduled flows, effectively giving unscheduled flows priority access over the rights paid for by OATT customers (scheduled flows). For example, during the RBC trial in the West, the number of curtailments to e-tags went up dramatically as a result of unscheduled flows across path 36, as reported by the WECC Performance Workgroup in the December 2011 Quarterly Report on the RBC Field Trial. Most recently, we have seen a record number of curtailments across path 66. In 2011 there were a total of 61 Unscheduled Flow Mitigation events for Path 66 of Step 4 or higher (see the WECC USF Mitiagation Procedure). So far in 2012 there have already been 741 events of step 4 or highter. It is a serious concern that the increase in unscheduled flow across path 66 can be attributed to the the RBC field trial (i.e. the BAAL limit). If the proposed standard is approved it should be expected that this issue will continue, and perhaps spread to other parts of the grid. (We discuss this issue in more detail in our response to Question 11.) Also of concern is the dramatic impact that the proposed BAAL limit will have on the frequency error of the Interconnections. In WECC specifically, it has been shown that the frequency error has been steadily increasing since the start of the RBC field trial. As the drafting team has pointed out in the Background Document for this proposed standard, reliability is reduced when Interconnection frequency is moved farther from the scheduled value. In light of the fact that replacing CPS2 with the proposed BAAL limit has already been shown to have the effect of moving the frequency away

Organization	Yes or No	Question 5 Comment
		from the scheduled frequency value, the adoption of proposed standard would have the overall effect of reducing reliability. We would also like to note that, under the WECC field trial, BAs that are operating with BAAL have been requested by the Reliability Coordinator to further limit their ACE due to transmission overload issues in the Interconnection caused by the operations of another BA (e.g. BA #1 is interconnected with BA#2, and BA#1's inadvertent flows cause an SOL violation at the interconnection between BA#2 and BA#3, so the RC requests BA#2 to change their operation). This should be a serious concern: A BA operating in compliance with the proposed BAL-001 reliability standard (during the RBC field trial) is causing or contributing to a violation of another reliability standard (TOP) and potentially causing another entity to be in violation.
Response: Thank you for your comment. To operate in the manner you have described would be a very high risk method of operation. The drafting team believes that the performance of the BAs would not become worse but would in fact be better if there if this standard was enforceable and there were compliance penalties involved. **The drafting team chose 30 minutes to be consistent with other NERC standards.** **BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.** **There have not been any reliability issues raised by any RC during these calls. The drafting team encourages BA's and RC's to share any specific occurrences that they feel have reliability impacts as a result of operating under BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.** **The drafting team acknowledges that the frequency band has increased but it is still within the FTL that has been selected for the Interconnection. In addition, the drafting team has not seen any analysis done that would provide information pointing to the use of BAAL and the violations you are describing.**		
AECI	No	AECI would like to request a modification to Attachment 2, such that the this calculation uses the scheduled frequency and not a constant of 60.0. Such that the

Organization	Yes or No	Question 5 Comment
		BAAL calculation will adjust for time error correct.
Response: Thank you for your comment. The drafting team agrees and has made the necessary modifications.		
Tucson Electric Power	No	While I agree with the theory of BAAL, and the 30 minute limit, the BAAL calculation needs to address the fact that the BAAL for small BAs can be more restrictive than the current CPS2.
Response: Thank you for your comment. The drafting team is aware of the concern you have identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs.		
ISO New England Inc	No	We believe that the frequency model and its use of 3*Epsilon for frequency trigger limits has significant shortcomings. The level of reliability targeted and achieved is a function of underfrequency relay settings, interconnection frequency response, and the size and expected outage rate of the design contingency(s) for which protection is needed. 3*Epsilon is not sensitive to these values or changes in them over time. It is not coordinated with the model in the Frequency Response Standard under development, which does address these sensitivities. We are concerned that CPS 1 alone will not address adequately the time of day short term frequency excursions observed on the Eastern Interconnection. Additionally, we continue to have reliability concerns with the BAAL limits not accounting for large ACE excursions and the possibility for an increase in transmission limit exceedences associated with such operation. We believe the Interconnection will be further exposed due to the lack of ACE bounding to somehow reflect transmission limits, and continue to believe that CPS 2 is a more reliable metric.
Response: Thank you for your comment. The drafting team has considered other alternative approaches and has selected the 3 epsilon model as the best and fairest model for the requirement.		

Organization	Yes or No	Question 5 Comment
The drafting team has not seen any issues concerning the "time of day short term frequency excursions" during the field trial. **The drafting team has not seen any issues that you are describing occur during the field trial that can be directly attributable to the use of BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.**		
NPPD	No	The elimination of CPS2 has a detrimental impact on reliability because the amount of unscheduled interchange a BA can have is not capped when frequency is in the "opposite" direction. This can lead to transmission constraints. TOPs and RCs must have a mechanism to restrict the unscheduled flows on the system due to a BA unilaterally over or under generating. I believe the old policies stated this as the intent of CPS 2 (at least it was for A2). The standard is defective as written.
Response: Thank you for your comment. The drafting team believes that neither BAAL nor CPS2 guarantees that a BA whose generation is in a direction that supports interconnection frequency will not result in transmission issues. BAs with large ACE during periods when transmission issues are present should be addressed by the RC.		
City of Tallahassee	No	While TAL agrees with the concept of the proposed language, the change in the measurement time from BAL-001-0.1a, which was a monthly measure, to a 30-minute measure is troublesome. Each instance of exceeding 30 minutes would be a violation. This may require changes to unit responses that have not been a problem in the past due to the averaging of unit response over a month period.
Response: Thank you for your comment. The drafting team understands that the 30 minute time frame may require more unit response but the drafting team believes that the 30 min requirement is appropriate. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.		
Texas Reliability Entity	No	ERCOT currently has a waiver for CPS2 compliance. With this new BAAL requirement, the waiver may no longer be needed, but this needs to be evaluated further. How will this requirement be evaluated when the BA declares an EEA?

Organization	Yes or No	Question 5 Comment
		How will this requirement be evaluated if there is a generation loss event greater than the MSSC?
Response: Thank you for your comment. The drafting team understands your concern about the waiver. However, the drafting team believes that this is an issue that should be addressed by the applicable entity. **The drafting team believes that EEA's presently do not provide for exclusion from other standards that are in effect.** **The requirement would be evaluated in the same manner that it is evaluated when there is no generation loss. The drafting team has not seen any issues that you are describing occur during the field trial that can be directly attributable to the use of BAAL.**		
Constellation Energy Control and Dispatch, LLC	No	While the calculation of ACE performance and its impact on frequency is a positive goal, the BAAL calculation, in its current form, does not accomplish this. Since the BAAL measure is comparing current ACE values against a calculated average frequency value, the BAAL measure inherently allows for BAAL to signal ACE corrections in the opposite direction of current frequency, and can and will penalize Balancing Authorities (through negative BAAL and CPS performance) for real-time ACE values that exceed BAAL limits, even while they are supporting current system frequency. In order to accomplish the intended goals of the requirement - to limit ACE deviations while considering their impact on frequency - , the BAAL measure needs to measure current actual ACE values against current actual frequency values at the scan rate utilized for ACE/CPS calculation. Furthermore, the trigger for when either BAALLOW or BAALHIGH is used for measure is based on actual frequency, setting up a three part disagreement in which frequency measure is used. For example, an Actual Frequency (as in Real Time, not averaged) of 60.1 is used to trigger BAALHIGH, which would then measure performance against the previous minute average frequency, which could be below 60Hz, demonstrating that the measure is not designed to accomplish its specified goals.The purpose statement also seems slightly off base. The intention of BAAL appears to provide a measurable boundary for ACE performance, with Frequency taken into consideration, rather than simply as a mechanism to support system frequency, which seems to be the specific focus of the CPS1 criteria. The purpose statement should more clearly reflect the

Organization	Yes or No	Question 5 Comment
		actual intent of R2, as well as that of R1.
Response: Thank you for your comment. The drafting team believes that there appears to be a misunderstanding of how BAAL is calculated. BAAL calculations use actual frequency, actual ACE and does provide a mechanism to support system frequency as you suggest.		
Xcel Energy	No	The last phrase "to support interconnection frequency" makes the requirement unclear. Please delete that phrase so the requirement is clear and concise. Additionally, the language in the requirement needs to in some way address the issue of clock minute average that are determined to be invalid do to issues with the measurement equipment, especially if the measurement equipment has an issue around the end of a 30 minute exceedance.
Response: Thank you for your comment. The drafting team agrees and has made the necessary modifications. **There is language in the attachment to provide for instances when measuring equipment are inoperable.**		
ACES Power Marketing Standards Collaborators	Yes	Conceptually, we are in complete agreement with the BAAL limit. It is far superior to the CPS2 requirements. The BAAL limits consider frequency impact whereas CPS2 does not. At times, CPS2 forces a BA to move its ACE in a direction that does not support frequency. Furthermore, control for CPS2 could be turned off for 10% of the time (over a month) and a BA could still be compliant. While we agree with the requirement, some further clarification is required regarding the exclusion of one-minute samples as explained in Attachment 2. Since a violation is based on consecutive clock minutes, what should the responsible entity assume about clock-minute samples that are excluded because less than 50% of the data is available per Attachment 2? If responsible entity is exceeding a BAAL high limit for 10 minutes, then fails to record the next 8 clock-minute samples because of data unavailability, and then exceeds the same BAAL high limit for the following 13 minutes, is this a violation?

Organization	Yes or No	Question 5 Comment
Response: Thank you for your comment. There is language in the attachment to provide for instances when measuring equipment are inoperable.		
Manitoba Hydro	Yes	The reference to 'it' should specify the Balancing Authority for clarity.
Response: Thank you for your comment. The drafting team agrees and has made the necessary modifications.		
MRO NSRF	Yes	The NSRF supports R2 as an improved approach over CPS2.While not under the purview of this drafting team, the proposed changes in BAL-003 with regard to variable bias (no floor on variable bias) opens the opportunity for gaming R2.
Response: Thank you for your comment. The latest developments in BAL-003 provide minimum values for Frequency Bias settings when variable bias is used in multi-BA interconnections.		
SERC OC Standards Review Group	Yes	The SERC OC Standards Review Group is concerned that the reliability impact of violating this requirement is proportional to the size of the balancing authority. For example, PJM, at a size of over 100,000 MW has a much more impact on reliability than SEPA, at less than 2000 MW. We do not understand how to apply VRFs consistently. This may require splitting into multiple VRFs considering the size of the BA.
Response: Thank you for your comment. The drafting team is aware of the concern you have identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs.		
LG&E and KU Services	Yes	LGE and KU Services is a participant in the BAAL Field Test and support the implementation of the BAAL standard.
Response: Thank you for your comment.		
NV Energy	Yes	While I generatlly agree with the intent or R2, it's too wordy. I suggest "Each

Organization	Yes or No	Question 5 Comment
		Balancing Authority shall operate such that its clock-minute average Reporting ACE does not exceed, for more than 30 consecutive clock-minutes, its clock-minute BAAL [BAAL is a defined term] for the applicable Interconnection in which it operates. The BAAL equations are detailed in Attachment 2."
Response: The drafting team thanks you for your comment but the drafting team has elected to not use your suggested wording based on the comments received from the industry.		
South Carolina Electric and Gas	Yes	South Carolina Electric and Gas supports the comments submitted by the SERC OC Standards Review Group.
Response: Thank you for your comment. Please refer to our response to the comments submitted by the SERC OC Standards Review Group.		
Duke Energy	Yes	See comment to question 1 on the use of Reporting ACE.
Response: Thank you for your comment. Please refer to our response to the comments submitted for Question 1.		
Southern Company	Yes	
Keen Resources Asia Ltd.	Yes	
Independent Electricity System Operator	Yes	
Sacramento Municipal Utility District	Yes	
Idaho Power Company	Yes	
American Wind Energy	Yes	

Organization	Yes or No	Question 5 Comment
Association		
American Electric Power	Yes	
Tacoma Power	Yes	
ISO's Standards Review Committee	Yes	

6. **The BARC SDT has developed VRFs for the proposed Requirements within this standard. Do you agree that these VRFs are appropriately set? If not, please explain in the comment area below.**

Summary Consideration: The majority of the commenters agreed that the VRFs were appropriate for the requirements.

One commenter suggested that the VRF be based on the impact that the BA has on the interconnection. The drafting team stated that they were attempting to develop a standard that would be applicable to the entire continent and did not know of any method to distinguish between larger and smaller BAs. The drafting team used the current VRF Development Guideline.

Another commenter thought the "medium" VRF was excessive and quoted the first sentence of the VRF guideline. The drafting team explained that they had only provided the first sentence of the VRF Guideline for a medium VRF. The second sentence reads "…However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system." This is the sentence that the drafting team makes this a medium VRF. In addition, the current approved VRF for this requirement in BAL-001-0.1a is also a medium VRF.

Organization	Yes or No	Question 6 Comment
Associated Electric Cooperative Inc, JRO00088	No	AECI concurs with the concerns expressed by SERC on behalf of smaller BAs.
Response: Thank you for your comment. Please refer to our response to the comments submitted by SERC.		
SERC OC Standards Review Group	No	See comments to No. 5 above.
Response: Thank you for your comment. Please refer to our response to Question 5.		

Organization	Yes or No	Question 6 Comment
Powerex Corp.	No	No comment at this time.
AECI	No	VRFs should be adjusted based upon the balancing authorities impact upon the interconnection.
Response: Thank you for your comment. The drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs. The drafting team used the current VRF Development Guideline.		
NV Energy	No	For R1, a VRF of medium seems excessive. A value, measured over a year, cannot "directly affect the electrical state or the capability of the Bulk Electric System".
Response: The drafting team thanks you for your comment but the drafting team disagrees. You have only provided the first sentence of the VRF Guideline for a medium VRF. The second sentence reads "…However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system." This is the sentence that the drafting team makes this a medium VRF. In addition, the current approved VRF for this requirement in BAL-001-0.1a is also a medium VRF.		
South Carolina Electric and Gas	No	
Texas Reliability Entity	Yes	There is a reference to BAL-003-1 that appears misplaced in the VRF/VSL justification document (please verify).
Response: Thank you for your comment. This has been corrected.		
ISO's Standards Review Committee	Yes	

Organization	Yes or No	Question 6 Comment
ACES Power Marketing Standards Collaborators	Yes	
MRO NSRF	Yes	
Western Electricity Coordinating Council	Yes	
Manitoba Hydro	Yes	
Hydro-Québec TransÉnergie	Yes	
Bonneville Power Administration	Yes	
SPP Standards Review Group	Yes	
MISO Standards Collaborators	Yes	
Arizona Public Service Company	Yes	
Southern Company	Yes	
Keen Resources Asia Ltd.	Yes	
Independent Electricity System Operator	Yes	
Sacramento Municipal Utility District	Yes	

Organization	Yes or No	Question 6 Comment
Idaho Power Company	Yes	
American Wind Energy Association	Yes	
American Electric Power	Yes	
Tacoma Power	Yes	
Tucson Electric Power	Yes	
Constellation Energy Control and Dispatch, LLC	Yes	
Duke Energy	Yes	

7. The BARC SDT has developed Measures for the proposed Requirements within this standard. Do you agree with the proposed Measures in this standard? If not, please explain in the comment area.

Summary Consideration: The majority the majority of the commenters agreed that the measures were appropriate for the requirements.

One commenter disagreed with the measure since they disagreed with the requirement. Their concern was with the treatment of small BAs. The drafting team stated that they were aware of the concern identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs.

Another commenter disagreed with the measures because they felt that the Data Retention section appeared to exclude the use of hard copy for data retention. The drafting team explained that the measures do not reference the data input. They only reference the method for proving compliance. The data retention references the data used for the calculation that needs to be retained.

One commenter felt it was unclear if the data required must be EMS quality of if the data could be from another source. The drafting team stated that data retention referenced "scan rate" data. As long as an entity can provide "scan rate" data it should not matter where it comes from. This is the same that is presently in effect with standard BAL-001-0.1a.

Organization	Yes or No	Question 7 Comment
Bonneville Power Administration	No	BPA does not agree with the requirements in general, and cannot support the measures.
Response: Thank you for your comment. Please refer to our response to your comments concerning the requirements.		
Powerex Corp.	No	No. As stated above in our response to Question 5, because of the significant deficiencies of Requirement 2, a BA would be able to operate in a way that could have a significant impact on reliability, for the majority of the time, without facing

Organization	Yes or No	Question 7 Comment
		any penalty or sanction.
Response: Thank you for your comment. Please refer to our response to Question 5.		
Tucson Electric Power	No	Need to address the BAAL calculation for small BAs
Response: Thank you for your comment. The drafting team is aware of the concern you have identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs.		
City of Tallahassee	No	The proposed M1 and M2 each allow for evidence in hard copy OR electronic format. Section D item 1.2 (Data Retention) seemingly excludes the acceptability of hard copy evidence. TAL suggests that the Data Retention requirement be expanded to include hard copy evidence to be consistent with M1 and M2.
Response: Thank you for your comment. The measures do not reference the data input. They only reference the method for proving compliance. The data retention references the data used for the calculation that needs to be retained.		
Xcel Energy	No	It is unclear from the language if the required data must be EMS quality or if the data can be from a data recorder such as PI. The Measure needs to be clear on this issue.
Response: Thank you for your comment. The data retention references "scan rate" data. As long as an entity can provide "scan rate" data it should not matter where it comes from. This is the same that is presently in effect with standard BAL-001-0.1a.		
ISO's Standards Review Committee	Yes	
Associated Electric Cooperative Inc, JRO00088	Yes	
ACES Power Marketing	Yes	

Organization	Yes or No	Question 7 Comment
Standards Collaborators		
MRO NSRF	Yes	
SERC OC Standards Review Group	Yes	
Manitoba Hydro	Yes	
SPP Standards Review Group	Yes	
MISO Standards Collaborators	Yes	
Hydro-Québec TransÉnergie	Yes	
Arizona Public Service Company	Yes	
Southern Company	Yes	
Keen Resources Asia Ltd.	Yes	
Independent Electricity System Operator	Yes	
Sacramento Municipal Utility District	Yes	
AECI	Yes	
Idaho Power Company	Yes	

Organization	Yes or No	Question 7 Comment
American Wind Energy Association	Yes	
American Electric Power	Yes	
Tacoma Power	Yes	
NV Energy	Yes	
South Carolina Electric and Gas	Yes	
Texas Reliability Entity	Yes	
Constellation Energy Control and Dispatch, LLC	Yes	
Duke Energy	Yes	

8. The BARC SDT has developed VSLs for the proposed Requirements within this standard. Do you agree with these VSLs? If not, please explain in the comment area.

Summary Consideration: The majority the majority of the commenters agreed that the VSLs were appropriate for the requirements.

A couple of commenters disagreed with the VSLs based on the objection to Requirement R2 and the treatment of small BAs. The drafting team stated that they were aware of the concern identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs.

One commenter disagreed with the VSLs and felt that they should be graded by the size of entity in lieu of having multiple VRFs. The drafting team explained that under the present guidelines a standard must have a VRF and VSL. The VRFs account for the impact the requirement could have on the BES while the VSL accounts for the severity of the violation of the requirement. The drafting team does not know of any way to differentiate the VSL based on the size of an entity. The drafting team believes to differentiate based on the size would add a large degree of subjectivity based on the thresholds used.

Organization	Yes or No	Question 8 Comment
Arizona Public Service Company	No	While "reliability issues" have not been identified by the RCs, there are other issues that need to be addressed that are not mentioned in the background document.
Response: Thank you for your comment.		
Powerex Corp.	No	No. As stated above in our response to Question 5, because of the significant deficiencies of Requirement 2, a BA would be able to operate in a way that could have a significant impact on reliability, for the majority of the time, without facing any penalty or sanction.
Response: Please refer to our response to Question 5.		

Organization	Yes or No	Question 8 Comment
ISO's Standards Review Committee	Yes	The drafting team may want to look at how small BAs are impacted by R2. The CPS curve for small BAs has a wider tail. The performance expectations may not be the same.
Response: Thank you for your comment. The drafting team is aware of the concern you have identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs.		
MRO NSRF	Yes	The drafting team may want to look at how small BAs are impacted by R2. The CPS curve for small BAs has a wider tail. The performance expectations may not be the same.
Response: Thank you for your comment. The drafting team is aware of the concern you have identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs.		
SERC OC Standards Review Group	Yes	Perhaps VSLs could be graded by the size of the entity in lieu of having multiple VRFs.
Response: Thank you for your comment. Under the present guidelines a standard must have a VRF and VSL. The VRFs account for the impact the requirement could have on the BES while the VSL accounts for the severity of the violation of the requirement. The drafting team does not know of any way to differentiate the VSL based on the size of an entity. The drafting team believes to differentiate based on the size would add a large degree of subjectivity based on the thresholds used.		
Western Electricity Coordinating Council	Yes	To the extent that we believe the VSLs are appropriate for the requirements as written. However, the VSLs will potentially need to be modified if the suggested changes are implemented.
Response: Thank you for your comment. The drafting team will ensure that any modifications to the requirements will be reflected in the VSLs.		

Organization	Yes or No	Question 8 Comment
South Carolina Electric and Gas	Yes	South Carolina Electric and Gas supports the comments submitted by the SERC OC Standards Review Group
Response: Please refer to our response to comments submitted by the SERC OC Standards Review Group.		
Associated Electric Cooperative Inc, JRO00088	Yes	
ACES Power Marketing Standards Collaborators	Yes	
Bonneville Power Administration	Yes	
SPP Standards Review Group	Yes	
MISO Standards Collaborators	Yes	
Southern Company	Yes	
Manitoba Hydro	Yes	
Keen Resources Asia Ltd.	Yes	
Independent Electricity System Operator	Yes	
Sacramento Municipal Utility District	Yes	
AECI	Yes	

Organization	Yes or No	Question 8 Comment
Idaho Power Company	Yes	
American Wind Energy Association	Yes	
Hydro-Québec TransÉnergie	Yes	
American Electric Power	Yes	
Tacoma Power	Yes	
Tucson Electric Power	Yes	
NV Energy	Yes	
Texas Reliability Entity	Yes	
Constellation Energy Control and Dispatch, LLC	Yes	
Duke Energy	Yes	

9. The BARC SDT has developed a document "BAL-001-1 Real Power Balancing Control Standard Background Document" which provides information behind the development of the standard. Do you agree that this new document provides sufficient clarity as to the development of the standard? If not, please explain in the comment area.

Summary Consideration: Several commenters wanted the field trial data included in the Background Document. The drafting team stated that they conduct a monthly call to discuss the prior month operation using BAAL. These monthly results are posted on the NERC website. The BAAL field trial will continue in effect until the date that a new standard goes into effect. The drafting team will be preparing a report based on the field trial results that will be posted prior to the FERC filing for this draft standard.

Some commenters disagreed with the statement made by the drafting team that there has not been any reliability issues occur during the field trial. The drafting team explained that there have not been any reliability issues raised by any RC during the monthly calls. The drafting team encourages BA's and RC's to share any specific occurrences that they feel have reliability impacts as a result of operating under BAAL.

A few commenters mentioned that there was an error in the description of A1 criteria located in the Background Document. The drafting team agreed with the commenter and modified the document to reflect the correct language.

A couple of commenters felt that the Background Document provided valuable material and that it should be retained. The drafting team agreed and stated that they would recommend that NERC keep the document on their website.

Organization	Yes or No	Question 9 Comment
ISO's Standards Review Committee	No	1) If the background document is expected to be used just to explain the team's work, we have no issue with it. If it is expected to replace the current Performance Standards Reference Guidelines in the NERC Operating Manual, the document lacks significant detail. 2) While it is not material to the new standard, the A1 criteria is not properly stated. Under A1, ACE needed to cross zero at least once in every ten minute period of the hour and that the total non-crossings had to be less than 10 percent of all periods.

Organization	Yes or No	Question 9 Comment
Response: Thank you for your comment. **1) The drafting team does not intend for this document to replace anything. The document was only intended to provide insight into the drafting teams thought process during the development of this standard.** **2) Thank you and this will be corrected.**		
MRO NSRF	No	While it is not material to the new standard, the A1 criterion is not properly stated. Under A1, ACE needed to cross zero at least once in every ten minute period of the hour and that the total non-crossings had to be less than 10 percent of all periods.
Response: Thank you for your comment. This will be corrected.		
Western Electricity Coordinating Council	No	The background document should include the Field Trial results from all Interconnections.
Response: Thank you for your comment. The drafting team conducts a monthly call to discuss the prior month operation using BAAL. These monthly results are posted on the NERC website. The BAAL field trial will continue in effect until the date that a new standard goes into effect. The drafting team will be preparing a report based on the field trial results that will be posted prior to the FERC filing for this draft standard.		
Bonneville Power Administration	No	The document mentions that there has been no reliability issues with the field trial. BPA and others in WECC have experienced many SOL violations due to Large ACEs. BPA disagrees with the argument that CPS2 is less reliable because you can be out of bounds for 72 hours per month. Taking the same argument to RBC, one can be out of bounds 29 minutes, back in for a minute and out of bounds for 29 minutes. This equates to 696 hours per month.BPA believes it has been demonstrated, at least in WECC, that CPS2 is more reliable. BPA has yet to determine if the decrease in reliability is worth the increase in flexibility that RBC allows.
Response: Thank you for your comment. The drafting team conducts a monthly call to review the results from the BAAL field trial. There have not been any reliability issues raised by any RC during these calls. The drafting team encourages BA's and RC's to		

Organization	Yes or No	Question 9 Comment
share any specific occurrences that they feel have reliability impacts as a result of operating under BAAL. **The Background Document does not address the relative reliability of CPS2 versus BAAL. The 72 hours that a BA could be outside the CPS2 and be fully compliant was an observation and not an implication of reliability. The drafting team believes that operating to the limits of any measure is an extremely high risk operation.**		
MISO Standards Collaborators	No	While they are not material to the new standard, the A1 criteria are not properly stated. Under A1, ACE needed to cross zero at least once in every ten minute period of the hour and the total non-crossings had to be less than 10 percent of all periods.
Response: Thank you for your comment. This will be corrected.		
Progress Energy	No	Conclusive results of the BAAL field trial are not provided in the background document. If the industry is to make the move to make the change from CPS2 to BAALs, there should be evidence provided that this action will aid in better frequency control for the Interconnections.
Response: Thank you for your comment. The drafting team conducts a monthly call to discuss the prior month operation using BAAL. These monthly results are posted on the NERC website. The BAAL field trial will continue in effect until the date that a new standard goes into effect. The drafting team will be preparing a report based on the field trial results that will be posted prior to the FERC filing for this draft standard.		
Keen Resources Asia Ltd.	No	No. In particular this sentence on page 5 of the background document provides no technical justification for the the "3" in the plus/minus 3epsilon FTL: "BAAL was derived based on reliability studies and analysis which defined a Frequency Trigger Limit (FTL) bound measured in Hz." The analysis commissioned by NERC without tender to an outside software vendor was demolished in the extensive posted comments by 2 statistical experts, California ISO and NPCC. The analysis was junked together with the rejected proposed standard as NERC proceeded to form a new drafting team to rebuild the standard. 3 has been demonstrated throughout the field test to be too tight in terms of generating too many BAAL exceedences to be addressed immediately by the BA. The BA needs to wait at least 5 minutes for

Organization	Yes or No	Question 9 Comment
		enough of these exceedences to go away to leave a feasible/manageable number begin to addressing. Such waiting jeopardizes reliability. It is much more prudent to raise the "3" to somewhere between 4 or 5 to generate exceedences small enough in number to be feasible/manageable to begin addressing immediately upon occurrence. Setting the FTL at a high enough threshold where the number of exceedences becomes feasible or manageable enough to be addressed immediately upon occurrence instead of 5 or more minutes after they have begun if FTL is set at too low a multiple of epsilon, is least expensive and most favorable to reliability. The field test has not "proved" that 3 is the proper multiple just because there has been no blackout. Otherwise we can go home until the next blackout. Instead the field test has produced the data supporting the contention that the limit is too tight for reliability because it generates too many short-lived exceedences and thereby encourages waiting to address the exceedences that will persist and be very serious. After the demise of the previous proposed standard, NERC elected to change policy and stop commissioning research and therefore development of any thorough technical justification for the present proposed standard. In other words, NERC can no longer justify a reliability standard by any documented scientific procedure of its own.
Response: Thank you for your comment. The drafting team has considered other alternative approaches and has selected the 3 epsilon model as the best and fairest model for the requirement. **The drafting team conducts a monthly call to review the results from the BAAL field trial. There have not been any reliability issues raised by any RC during these calls. The drafting team encourages BA's and RC's to share any specific occurrences that they feel have reliability impacts as a result of operating under BAAL.**		
Independent Electricity System Operator	No	While it is not material to the new standard, the A1 criterion is not properly stated. Under A1, ACE needed to cross zero at least once in every ten minute period of the hour and that the total non-crossings had to be less than 10 percent of all periods.
Response: Thank you for your comment. This will be corrected.		

Organization	Yes or No	Question 9 Comment
Powerex Corp.	No	No. Powerex feels the Background Document does not reference or explain any of the findings of the RBC trial discussed in Question 5 that should be of concern, i.e. BAs operating outside the BAAL limit in a cyclical manner, the detrimental impact of unscheduled flows on the grid, and the increase in frequency error.
Response: Thank you for your comment. The drafting team conducts a monthly call to discuss the prior month operation using BAAL. These monthly results are posted on the NERC website. The BAAL field trial will continue in effect until the date that a new standard goes into effect. The drafting team will be preparing a report based on the field trial results that will be posted prior to the FERC filing for this draft standard. **There have not been any reliability issues raised by any RC during these calls. The drafting team encourages BA's and RC's to share any specific occurrences that they feel have reliability impacts as a result of operating under BAAL.**		
Tucson Electric Power	No	While I agree overall with the background document, there have been some transmission flow issues reported from the Western Interconnection RCs. To make a statement that there have been no reported reliability issues may not be entirely correct. I agree that BAAL has a more positive effect on interconnection frequency than does CPS2. BAAL with some sort of transmission limit might be the way to go.
Response: Thank you for your comment. The drafting team understands that there has been some transmission flow issues reported that are presently being investigated by the WECC Performance Working Group. However, there have not been any reliability issues raised by any RC during these calls. The drafting team encourages BA's and RC's to share any specific occurrences that they feel have reliability impacts as a result of operating under BAAL.		
ISO New England Inc	No	Given the rampant need in the industry for Requests for Interpretations, Rapid Revisions, and CANs, we believe that future Standards need to be written so that they can "stand alone" upon scrutiny.
Response: Thank you for your comment. The drafting team believes that this is a NERC Standards Process issue and is therefore outside the scope of this project. However, the draft standards are evaluated by individuals trained to perform quality reviews. The drafting team believes that if this standard was not able to stand on its own, it would be identified during the quality review		

Organization	Yes or No	Question 9 Comment
process.		
City of Tallahassee	No	Although TAL understands from the document's Introduction that no reliability issues have been identified in the field trial, TAL seeks additional information on the challenges encountered by the participants during the implementation and field trial. TAL also seeks greater explanation of the field trial results.
Response: Thank you for your comment. The drafting team is unsure of the type of additional information you are seeking. We encourage you to contact those participating in the field trial to seek their feedback on any operational issues encountered during the field trial. **The drafting team conducts a monthly call to discuss the prior month operation using BAAL. These monthly results are posted on the NERC website. The BAAL field trial will continue in effect until the date that a new standard goes into effect. The drafting team will be preparing a report based on the field trial results that will be posted prior to the FERC filing for this draft standard.**		
Xcel Energy	No	Xcel Energy recommends that the Background Document refer to and provide a link to the data and related evaluations that has been collected over the years of the field trial.
Response: Thank you for your comment. The drafting team does not agree that a link is needed for the Background Document. However, the drafting team is providing a link to the documents below. **http://www.nerc.com/filez/standards/Reliability_Based_Control_FieldTrial_Tools_2007-18-RF.html**		
SPP Standards Review Group	Yes	The background document provided with BAL-001-1 provided valuable information regarding the history of control performance criteria and how the SDT got to where it is today with the proposed standard. What are the plans for the document? Will it become a guideline, reference document, etc? It needs to be maintained for future reference and updating.
Response: Thank you for your comment. The drafting team will recommend that this document be archived in an appropriate place for future reference.		

Organization	Yes or No	Question 9 Comment
Arizona Public Service Company	Yes	Yes, provides clarity but there remains disagreement with the rationale.
Response: Thank you for your comment.		
Constellation Energy Control and Dispatch, LLC	Yes	See comment for item 5, related to R2. If the calculation indicated for R2 is not successful in meeting the intent of the standard, then the measures would be similarly problematic.
Response: Thank you for your comment. Please refer to our response for Question 5.		
Duke Energy	Yes	The document provides sufficient clarity as to the development of the standard. There is no value added to the document, however, with the inclusion of the "Historical Significance" section going back to 1973, A1-A2 Control Performance Criteria, then leading up to 1996 describing the NERC Policy CPS1, CPS2, and DCS. The SDT simply needs to define CPS1 and CPS2 and their rationale for the development of the standard. On page 5 of the document, the SDT left out the word "Standard" between Performance and 2 in the first paragraph under the "Background and Rationale" section. "Significant hours" is not a good description for the 72 hours per month a BA's ACE can be outside its L10 as it is used in the last sentence of the document on page 6. It should be changed to something along the lines of, "....allows for a Balancing Authority's ACE value to be unbounded for a specific amount of time during a calendar month."
Response: Thank you for your comment. The drafting team agrees and has made the necessary modifications.		
Associated Electric Cooperative Inc, JRO00088	Yes	

Organization	Yes or No	Question 9 Comment
ACES Power Marketing Standards Collaborators	Yes	
Hydro-Québec TransÉnergie	Yes	
Manitoba Hydro	Yes	
SERC OC Standards Review Group	Yes	
Southern Company	Yes	
Sacramento Municipal Utility District	Yes	
AECI	Yes	
Idaho Power Company	Yes	
American Wind Energy Association	Yes	
American Electric Power	Yes	
Tacoma Power	Yes	
NV Energy	Yes	
South Carolina Electric and Gas	Yes	

10. If you are aware of any conflicts between the proposed standard and any regulatory function, rule order, tariff, rate schedule, legislative requirement, or agreement please identify the conflict here.

Summary Consideration: A few commenters felt that the current version of the standard could provide an entity the opportunity to crate large inadvertent flows by operating under BAAL. The drafting team stated that they had not seen any issues that they were describing occur during the field trial that can be directly attributable to the use of BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.

One commenter disagreed with using the term Reporting ACE and that this could cause problems with other standards. The drafting team explained that they believed that defining a new term "reporting ACE" would allow consistent evaluation of individual BAs performance to CPS1 and BAAL. The drafting team realizes that this definition of reporting ACE is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity. The drafting team further explained that they did not believe that the proposed standard would create any problems with other standards. Standards are written to be stand-alone. For this fact alone, there should not be any negative impacts. The drafting team has evaluated several other standards and has not found any instances of ambiguity being created.

Another commenter wanted to combine BAL-001 and BAL-002. The drafting team stated that they had discussed combining the standards into one but chose to keep them separate. The drafting team believes that combining the two standards could create additional confusion. In addition, the drafting team believes that it would be difficult to get industry agreement.

Organization	Yes or No	Question 10 Comment
NV Energy		I am not aware of conflicts.
Response: Thank you for your comment.		
Powerex Corp.		In Order No. 890, the Federal Energy Regulatory Commission (FERC or the Commission) recognized the potential for unscheduled energy flows between

Organization	Yes or No	Question 10 Comment
		adjacent BAAs both to jeopardize reliability and to cause undue harm to customers on the grid. The Commission stated, at P 703, in regards to the existing framework for inadvertent energy:"However, if there is evidence that it is no longer sufficient to maintain reliability, or is allowing certain entities to lean on the grid to the detriment of other entities, the Commission has authority under FPA section 215 to direct the ERO to develop a new or modified standard to address the matter." Powerex believes that the development of the BAL-001 standard based on the current purpose statement will allow entities to create deliberate inadvertent flows within the standards boundaries, without regard to the impact to transmission customers on the grid. This may result in substantial curtailments to transmission customers in direct contravention of the Commission's open access transmission principles of Order 890.BAL-001 may also be in conflict with FERC Order 693 (P 397). In that order, the Commission noted that while the control performance standard metric (BAAL limit in R2) is useful in identifying trends relating to poor regulating practices, specification of minimum reserve requirements to be maintained at all times would complement the control performance standard metrics by providing real-time requirements necessary for proper control. "[T]he control performance standard metric is a lagging indicator and, as such, does not provide a good indication that necessary amounts of regulating reserve are being carried at all times." The capability to be able to meet a BA's expected intra-hour imbalances, with a significant degree of confidence, should be achieved prospectively each hour. It is not sufficient to reduce a BA's regulation to a level designed only to meet the performance standards retrospectively. Though a prospective balancing reserve requirement as contemplated in Order 693 may be missing from standards currently in place, the inherent limits in the current CPS2 are strict enough such that the need for a prospective minimum requirement is reduced. However, the relaxation of the control performance measures in BAL-001 make it imperative that the minimum reserve requirements contemplated in Order 693 are included.
Response: Thank you for your comment. The drafting team has not seen any issues that you are describing occur during the field trial that can be directly attributable to the use of BAAL. BAAL was designed to provide for better control by allowing power flows		

Organization	Yes or No	Question 10 Comment
that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability. **The drafting team believes that BAAL is not intended to solve all issues. The standards (BAL) taken together and interacting together solve issues.**		
Duke Energy		It could be interpreted that the language in R5 of EOP-002-3 conflicts with the CPS1 and BAAL standards. EOP-002-3 R5 includes the sentences, "The Balancing Authority shall not unilaterally adjust generation in an attempt to return Interconnection frequency to normal beyond that supplied through frequency bias action and Interchange Schedule changes. Such unilateral adjustment may overload transmission facilities." As operation in support of Interconnection frequency under CPS1 and BAAL allows for support beyond that supplied by frequency bias action, Duke Energy believes that the sentences should be taken out of EOP-002-3 R5, which were never intended to be applicable to the deficient Balancing Authority for which the standard applies. Conforming changes will also need to be made to EOP-002-3 R6 which references "Control Performance and Disturbance Control Standards".It could be interpreted from the language in R6 of EOP-002-3, that a Balancing Authority is considered in an emergency condition and should be implementing its emergency plan if it is not capable of complying at any time to the CPS1, CPS2, BAAL, or DCS measures. In a multiple-BA Interconnection, the bounds of CPS1 and BAAL represent each BA's share of responsibility in maintaining frequency within defined bounds - to the extent that Interconnection frequency remains within acceptable limits, non-compliance in a general sense is more of an equity concern, than a reliability issue rising to the level requiring actions up to an including the shedding of firm load to remain compliant. Under what circumstances should the Balancing Authority shed firm load as a last resort to ensure that it remains compliant to the "Control Performance and Disturbance Control Standards"?
Response: Thank you for your comment. The drafting team believes that EOP issues are beyond the scope of this drafting team. However, the drafting team will pass you concern on the appropriate individuals at NERC for future consideration.		

Organization	Yes or No	Question 10 Comment
An entity must maintain compliance with all standards that are applicable. The standards are not intended to tell an entity how it should maintain compliance.		
MISO Standards Collaborators		MISO notes the use of cross-references and similar terms among and between reliability standards. Accordingly, terms and concepts previously utilized in BAL-001-0.1a that have been replaced, modified, or re-defined in BAL-001-1 may impact other reliability standards such as BAL-003, BAL-004, and BAL-005-0.1b. MISO notes that the use of cross-references and similar terms should be evaluated to ensure consistency amongst the reliability standards and requirements. In particular, where terms and requirements have been redefined or modified in BAL-001-1, a cross-referenced or closely related standard or requirement could be impacted by the modification to BAL-001-1. For example, BAL-005-0.1b references the "ACE equation," which equation appears to have been replaced by an equation to calculate Reporting ACE. Additionally, the creation of a new glossary definition could result in ambiguity regarding required performance outcomes and obligations where a previous defined term had been used and is maintained in cross-referenced or closely related standards. For example, several BAL standards refer to and use ACE as a performance standard or requirement. It is unclear whether this performance obligation remains tied to raw ACE calculations or to an entity's Reporting ACE. MISO respectfully suggests that the BARC SDT perform a comprehensive review of BAL-001-1's impact on cross-referenced or closely related reliability standards prior to implementation.
Response: Thank you for your comment. The drafting team believes that defining a new term "reporting ACE" will allow consistent evaluation of individual bas performance to CPS1 and BAAL. The drafting team realizes that this definition of reporting ACE is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity. **The drafting team does not believe that the proposed standard will create any problems with other standards. Standards are written to be stand-alone. For this fact alone, there should not be any negative impacts. The drafting team has evaluated several other standards and has not found any instances of ambiguity being created.**		

Organization	Yes or No	Question 10 Comment
Keen Resources Asia Ltd.		The technically unjustified tight multiple of "3" epsilon (versus between 4 and 5) in the Frequency Trigger Limit (FTL) on page 10 (Attachment 2) of the Standard violates (1) the requirement that reliability standards not interfere with the "just and reasonable" economic basis for market efficiency and (2) the requirement that reliability standards improve not reduce reliability. Point (2) is covered in my comments to Question 9. The multiple of 3 raises reliability cost not just unnecessarily, but perversely in exchange for less reliability. That interferes with the normal "just and reasonable" cost/price basis for markets that must allow for costs of necessary reliability provided those costs are allocated in a way that is just and reasonable and not perverse to reliability. It is well-known that, by Bayesian "multiplication" of "conditional" probability, the probability of being at the FTL is "multiplied by" (not "added to") the "conditional" probability of the system's having a once-in-ten-years event provided it is at the FTL, and is an infinitesimal fraction of the probability of the system's reaching a once-in-ten-years event. Probabilities are fractions of 1. A fraction times a fraction is an infinitesimal. Contrary to the transmission/congestion engineer's deterministic practice of "adding" transmission capacities/contingencies, contingent/conditional probabilities are multiplied, not added. Transmission management/planning practices are not applicable to generation/load frequency control. Accordingly the FTL, regardless of whether the multiple of epsilon is 3, 4 or 5, is already in the realm one-event-in hundreds, thousands of years. So, there is no issue that a higher ("5") or lower ("3") multiple of epsilon is in a "dangerous" zone of unreliability. The issue is more of how "unnecessarily" tight the limit is in terms of adding to the cost of operations that participants then seek to avoid by ignoring the limit for the initial five or more minutes of a BAAL exceedence and thereby more than undo the supposed reliability benefit of the tightness!
Response: Thank you for your comment. The drafting team has considered other alternative approaches and has selected the 3 epsilon model as the best and fairest model for the requirement. **The drafting team conducts a monthly call to review the results from the BAAL field trial. There have not been any reliability**		

Organization	Yes or No	Question 10 Comment
issues raised by any RC during these calls. The drafting team encourages BA's and RC's to share any specific occurrences that they feel have reliability impacts as a result of operating under BAAL.		
Manitoba Hydro		In attachment 1, the F_A (Actual Frequency) term is defined and indicates a resolution of ±0.0005 Hz. This should be changed to align with the BAL-005-0.1b R17 that indicates a frequency resolution ≤ 0.001 Hz.
Response: Thank you for your comment. The drafting team has removed the resolution from the draft standard.		
Xcel Energy		While not a true conflict, it appears that the design of the BAL-001-1 R2 related to RBC and the BAL-002-2 R1 are not coordinated. The drafting team should review these two requirements and determine if there is reason to modify the BAL-002 requirement to more closely match the desire to operate within a pre-determined range based on frequency under BAL-001-1 R2. Ideally, all four of the standards under the BARC SDT would be combined into a single standard to reduce the likelihood of conflicts between them during the compliance process. While separating them may make it easier to focus on the minute details of one versus the other, there is a large risk that the separation can cause conflicts based on the interpretation of one versus the interpretation of another. As an example of the type of conflict that is possible as currently structured, one could argue that Requirement R2 in BAL-001 supplant Requirement R1 in BAL-002 or is Requirement R1 of BAL-002 the superior requirement.
Response: Thank you for your comment. The drafting team would need further clarification to be able to respond to your comment concerning a conflict. The drafting team does not see anything that would appear to be conflicting. **The drafting team has discussed combining the standards into one but chose to keep them separate. The drafting team believes that combining the two standards could create additional confusion. In addition, the drafting team believes that it would be difficult to get industry agreement.**		
Associated Electric Cooperative Inc, JRO00088		No

Organization	Yes or No	Question 10 Comment
Tucson Electric Power		no
South Carolina Electric and Gas		No
SERC OC Standards Review Group		No.
Arizona Public Service Company		None noted
Idaho Power Company		None.
SPP Standards Review Group		Not aware of any conflicts.

11. Do you have any other comment on BAL-001-1, not expressed in the questions above, for the BARC SDT?

Summary Consideration: Some commenters felt that six months was not enough time in implement BAAL. The drafting team stated that they had seen BAs make modification to their EMS for the field trial within 3 months and therefore believes that the six month window is appropriate.

A couple of commenters felt that using BAAL created transmission issues. The drafting team explained that they conduct a monthly call to review the results from the BAAL field trial. There have not been any reliability issues raised by any RC during these calls. The drafting team encourages BA's and RC's to share any specific occurrences that they feel have reliability impacts as a result of operating under BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.

A few commenters felt that the applicability section contained "requirements". The drafting team stated that they had modified the applicability section to provide additional clarity.

A couple of commenters disagreed with modifying the term "Interconnection". The drafting team explained that they modified the definition to add clarity with regards to the proper names of the Interconnections. The drafting team asked the question if the industry agreed with this modification. Only 6 entities disagreed. The drafting team agrees with the fact that this term is used in many standards but does not believe that the modification will have any significant impact.

A few commenters questioned the fact that the standard did not contain any reporting requirement. The drafting team explained that they had not included any reporting requirements because they believed that this was a function that should be handled by the RC and/or ERO.

One or two commenters felt that using BAAL would significantly restrict smaller BAs. The drafting team stated that they were aware of the concern identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs.

One commenter disagreed with the language in the Compliance Enforcement Authority. The drafting team explained that they had modified the language to use standard NERC approved language.

Organization	Yes or No	Question 11 Comment
ISO's Standards Review Committee		1)The concept of a definition is to provide a generic baseline that allows other descriptive items to be identified. For example: An Interconnection could be defined as a collection of loads, suppliers and transmission that operates synchronously. The Eastern Interconnection would be understood to be that group of ... 2)BAAL should be incorporated within a requirement as a performance level. It should not be a definition. 3)Similarly with ACE. ACE is defined as S-A + B delta f. The scan rate details are subsets of that definition; they are not the definition. 4)The applicable entities should not be defined by the methodology they use to meet the standard, nor should requirements be placed in the Applicable entity definition. 5)Sections 4.1.1 and 4.1.2 are unclear as to which entities are subject to complying with the standard. Further, the word “calculates” in both Sections turn these Sections into requirements rather than specifying the entities being responsible for meeting Requirements R1 and R2. 6)Inferring from Section 4.1.3, we interpret these Sections to mean that the “Balancing Authority that provides Overlap Regulation Service to another Balancing Authority”. In that case, a requirement to hold the service providing BAs responsible for calculating its CPS1 performance after combining its Reporting ACE and Frequency Bias Settings with the Reporting ACE, and Frequency Bias Settings of the Balancing Authority receiving the Regulation Service, would be necessary. Same applies to the BAAL calculation implied in Section 4.1.3
Response: Thank you for your comment. **1) The drafting team is only correcting the definition for Interconnection. The drafting team believes that since there are four Interconnections on the North American Continent then the definitions should be corrected.** **2) The drafting team agrees and has removed it from the standard.** **3) Based on comments received the drafting team believes that the definition for reporting ACE is correct as modified in the draft**		

Organization	Yes or No	Question 11 Comment
standard. **4) & 5) The drafting team thanks you for your suggestion and has modified the applicability section to provide clarity.** **6) The drafting team agrees and has made the necessary modifications.**		
Texas Reliability Entity		1. For the applicability section, ERCOT, as the single BA for the entire interconnection, does not provide or receive overlap regulation service from another BA. The SDT should consider adding an additional applicability for this specific situation or re-format the section to clarify applicability to a Balancing Authority not involved in Overlap Regulation Service. 2. Is NME consistent in use of units of measure? (ACE is measure in MWs, but NME is "the meter error correction factor" representing a difference in megawatt-hours). 3. Is there a maximum excluded value for one-minute sample periods that would invalidate a CPS1 or CPS2 calculation (i.e., If 59 minutes of every hour in a month were excluded because 50% of the one-minute period data was invalid, is the CPS1/CPS2 value acceptable?)? Perhaps modify the "valid" requirements to be 50% of the time period under consideration or a similar acceptable value for the time period in question (one minute, hour, day, month...).
Response: Thank you for your comment. **1) The drafting team has modified the applicability section to provide additional clarity. The drafting team believes that ERCOT is described in section 4.1.** **2) The drafting team has modified the calculation and NME is now IME. In addition, everything within the calculation is done in MWs.** **3) The "excluded values" calculation has not changed from what is being done today. The calculation will be done in the same manner as it always has been calculated.**		
City of Tallahassee		1. Effective Date: TAL questions whether six months is sufficient time for all EMS vendors to develop changes to software and for all entities to successfully implement

Organization	Yes or No	Question 11 Comment
		the changes within the confines of the CIP standards, which will require multiple layers of testing outside of scheduled updates. TAL suggests 24 months. 2. Data Retention: TAL suggests a clarification to the requirement language that data retention is the longer of either (a) the data retention period defined in the standard or (b) the period since the last audit. As the proposed language reads, the need to retain evidence since the previous audit (if longer than the defined retention period) is addressed in a separate area from the defined retention period. 3. Attachment 2: Are the Epsilon 1 values expected to change?
Response: Thank you for your comment. **1) The drafting team has seen BAs make modification to their EMS for the field trial within 3 months and therefore believes that the six month window is appropriate.** **2) The drafting team is using standard language for the data retention.** **3) The drafting team does not have any knowledge of any changes, but changes are made by the NERC RS and approved by the NERC OC.**		
Western Electricity Coordinating Council		1. The BAAL formula and the calculated limits are more restrictive than current standards (CPS2 and L10) for Balancing Authority with small frequency bias settings. The smallest frequency bias setting in WECC is -2 MW/0.1 Hz. The limitation of BAAL to BA of this size is substantially high. For example at 59.98 the BAALLow is calculated to be -4.62 MW compared to L10 limit which is -7.66. Under the RBC Field Trial the frequency errors and manual time error corrections have increased (WECC Report). Hence the frequency deviates from 60 Hz more often than in the past and the smaller BAs have to excise more control to stay within their BAAL. The SDT needs to address the disparate treatment of small BAs under the proposed BAAL requirement in the standard.The Priority-based Control engineering report (PCE Report) from 2005 directed by NERC stated this issue. The report says that the proposed BAAL may require disproportionately more control from smaller BAs than larger BAs. Also in Table 7 under item 7 it is stated “PCE has verified that the proposed BAAL

Organization	Yes or No	Question 11 Comment
		formulation ensures that if all BAs are within their BAAL at all times, the Interconnection frequency will not exceed FTL. Therefore, for frequency to exceed FTL, at least one BA must be outside its BAAL. However, these features are not unique to the selected BAAL formulation; many different sets of formulations would have the same properties. Additional research is necessary to determine the optimum BAAL formulation. If scheduled frequency is replaced with 60 Hz in the proposed BAAL formulation, the properties described above will no longer hold during periods of time error correction." WECC recommends the SDT consider developing a formula that distributes the control burden fairly among BAs. 2. WECC has the following concerns with proposed BAAL requirement's impact on transmission path loading as a result of large ACE values: a) During the field trial in WECC, an increase in Unscheduled Flow was noticed on Qualified Paths 36 and 66. In particular, during maintenance when the limit is significantly reduced high ACE values exacerbate path loading. b) The RBC field trial in the WECC was implemented in 3 distinct phases to test the impact on transmission path loading. Initially the BAAL was limited to no more than 2 times L10, in phase 2 the BAAL was limited to 4 times L10; and in phase 3 there was no cap on BAAL at 60 Hz. During Phase 3, the Reliability Coordinators (RC) reported several SOL exceedance associated with high ACE. The SOL exceedances were mitigated when RCs requested the high ACE value to be reduced to L10.The SDT must address transmission loading issues caused by high ACE.
Response: Thank you for your comment. **1) The drafting team is aware of the concern you have identified. However, the drafting team is attempting to develop a standard that would be applicable to the entire continent and does not know of any method to distinguish between larger and smaller BAs. In addition, the drafting team has modified the equation to now use Scheduled Frequency.** **2 a & b) The drafting team conducts a monthly call to review the results from the BAAL field trial. There have not been any reliability issues raised by any RC during these calls. The drafting team encourages BA's and RC's to share any specific occurrences**		

Organization	Yes or No	Question 11 Comment
that they feel have reliability impacts as a result of operating under BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.		
Progress Energy		Absent CPS2 L10 limits, at any given time one BA has no incentive to manage its ACE and can take advantage of the regulating power of neighboring BAs who may be balancing more effectively. CPS1 remains in place, however, this is a rolling one-year average and does not provide the same incentive as CPS2. BAL-001-1 Attachment 1 proposes to define actual frequency as "FA (Actual Frequency) is the measured frequency in Hz, with minimum resolution of +/- 0.005 Hz." This proposal includes an unreasonable resolution for frequency measurements and is unnecessary. Accuracy of frequency devices that are used in the calculation of ACE is already required by Standard BAL-005-1 Requirement 17. Further, providing this proposed required resolution on some existing industry equipment would either not be possible or would cause the total bandwidth for which the frequency can be monitored to be reduced to a level that would be unfavorable. The basis or rationale for this proposed resolution is not discussed in the background document and, and this requirement should be deleted from the Standard
Response: Thank you for your comment. The field trial experience in the East does not demonstrate the behavior you are describing. In addition, RCs have not reported any issues related to excessive ace during the monthly calls. **The drafting team has removed the resolution you have referenced.**		
Associated Electric Cooperative Inc, JRO00088		AECI agrees with SERC comment that Attachment 1 Interconnection names should agree with those in the draft Interconnection definition.
Response: Thank you for your comment. The drafting team has modified the documents so that they are consistent in the use of Interconnection names.		
Manitoba Hydro		Under Applicability Section 4.1.1, the term "CPS1" is used but the acronym is not defined until R1. It should be defined at the first use.

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		Under the Effective Date Section, the effective date language has a few issues in its drafting. It would be clearer to use the word 'following' as opposed to the word 'beyond' (and this would also be more consistent with the drafting of similar sections in other standards). The words 'the standard becomes effective' in the third line are not needed. The words 'made pursuant to the laws applicable to such ERO governmental authorities' may not be appropriate. It's not the laws applicable to the governmental authorities that are relevant, but the laws applicable to the entity itself. We would suggest wording like 'or as otherwise made effective pursuant to the laws applicable to the Balancing Authority'. Also, ERO is not defined.
Response: Thank you for your comment. The drafting team has corrected the error you have described. **The drafting team is using standard NERC approved language for the effective dates.**		
American Wind Energy Association		Based on the experience of the pilot program, this proposed standard will likely allow grid operators to maintain reliability while reducing the need for regulation reserves needed to accommodate all sources of variability on the power system. As a result, the proposed standard should be supported.
Response: Thank you for your comment.		
Northeast Power Coordinating Council		Because the frequency model is simply using 3 times Epsilon 1 for trigger limits, it does not produce optimum results. The 3 times Epsilon 1 trigger limits are not calibrated to account for relay settings or frequency response. The 3 times Epsilon 1 approach has a "set it and forget it" characteristic. The alternative model would require periodic updating as relay limit settings change, the Interconnection's frequency response changes, and the perceptions of the level of protection needed change. It also does not target a specified level of reliability. Concerns about transmission limits caused by dropping CPS 2 and the limitations in CPS 1 still haven't been addressed.

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		For CPS 1 data submissions, the number of one minute samples in the month becomes a new requirement. In Attachment 2 more complete guidance is needed for the treatment of a missing one minute sample when counting the time expired during a BAAL limit violation. Which of the following assumptions should be made about the missing sample: compliance, non-compliance, same state as the previous sample, same state as the next sample, or simple omission?
Response: Thank you for your comment. The drafting team has explored the alternative model that is described and has chosen to go with the 3 Epsilon model. **The drafting team has not seen any issues that during the field trial that can be directly attributable to the use of BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.** **CPS1 data submission requirements have been expanded to provide the number of valid samples in each month.** **The attachment states that if the one minute sample is bad then it is excluded from the calculation.**		
Duke Energy		Duke Energy does not believe that the Applicability section of the Standard should contain or clarify requirements of entities to the extent presented in the draft BAL-001-1. As the current definition of Overlap Regulation Service states "A method of providing regulation service in which the Balancing Authority providing the regulation service incorporates another Balancing Authority's actual interchange, frequency response, and schedules into providing Balancing Authority's AGC/ACE equation", Duke Energy would propose that Applicability should be assigned to "Balancing Authority not receiving Overlap Regulation Service". There appear to be incorrect references in the VRF/VSL document. The justification for R1 references BAL-003-1 for Guideline 2 instead of BAL-001-1. The justification for R2 also references BAL-003-1 for Guideline The Compliance Enforcement Authority Section language is not the same as that

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		specified in the Background Information for Quality Reviews dated February 2012.
Response: Thank you for your comment. The drafting team has modified the applicability section to provide additional clarity. **Thank you for catching this error. The drafting team has corrected the reference.** **The drafting team has modified the Compliance Enforcement Authority to use standard NERC approved language.**		
MRO NSRF		General Comments and Observations o The drafting team changed the NERC definition of Interconnections. This term is used in many standards and may have impact on them. o The reporting ACE term that the team created seems unnecessary as ACE is already defined. It also expands on the expectations of ACE. The frequency resolution appears too tight 0.0005Hz (compared to 0.001 in BAL-005) and the new term, Net Metering Error is prescriptive on how metering error is corrected.
Response: Thank you for your comment. The drafting team modified the definition to add clarity with regards to the proper names of the Interconnections. The drafting team asked the question if the industry agreed with this modification. Only 6 entities disagreed. The drafting team agrees with the fact that this term is used in many standards but does not believe that the modification will have any significant impact. **The drafting team realizes that this definition of reporting ACE is more prescriptive. Since ACE can vary between BAs according to control algorithms the drafting team felt it was necessary to define reporting ACE to ensure uniformity.** **The drafting team has removed the resolution from the attachment.** **The Net Metering Error (NME) has changed to Interchange Meter error (IME). Based on industry comments received, the drafting team has elected to not make any modifications to the term.**		
LG&E and KU Services		LG&E and KU Services suggests that the SDT clarifies that the standard will not require monthly reporting as if currently performed by the BA (CPS1 and BAAL) to SERC/NERC/FERC but that the BA will need to evaluate CPS1 monthly and BAAL

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		continuously.
Response: Thank you for your comment. The drafting team has not included any reporting activity within the standard. The drafting team believes that reporting will be determined by the RC and ERO.		
MISO Standards Collaborators		MISO supports this standard generally and, in particular, the concept and use of BAAL in lieu of CPS2.
Response: Thank you for your comment.		
Tucson Electric Power		Please note and read the WECC PWG report on RBC. Thanks to the drafting team for their efforts.
Response: Thank you for your comment. The drafting team plans on reading the report once it is published.		
ReliabilityFirst		ReliabilityFirst offers the following comment for consideration: 1. Applicability section a. RFC seeks further clarity surrounding the applicability of Balancing Authorities which do not provide Regulating Service. If a Balancing Authority does not provide Regulating Service, are they subsequently not subject to the requirements in the standard? If they are not subject to the requirements in the standard, RFC recommends removing section 4.1.3 since it is not needed as well.
Response: Thank you for your comment. All BAs are subject to this standard with the exception of those BAs receiving Overlap Regulation Service. **The drafting team has modified the applicability to provide additional clarity.**		
Independent Electricity System Operator		Sections 4.1.1 and 4.1.2 are unclear as to which entities are subject to complying with the standard. Further, the word "calculates" in both Sections turn these Sections into requirements rather than specifying the entities being responsible for meeting

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		Requirements R1 and R2. Inferring from Section 4.1.3, we interpret these Sections to mean that the "Balancing Authority that provides Overlap Regulation Service to another Balancing Authority". In that case, a requirement to hold the service providing BAs responsible for calculating its CPS1 performance after combining its Reporting ACE and Frequency Bias Settings with the Reporting ACE, and Frequency Bias Settings of the Balancing Authority receiving the Regulation Service, would be necessary. Same applies to the BAAL calculation implied in Section 4.1.3.
Response: The drafting team thanks you for your comment and has modified the applicability section to provide clarity.		
SERC OC Standards Review Group		Should the standard include reporting requirements to the RRO? On Attachment 1, the Interconnection names need to be revised to agree with the Interconnection as stated earlier in question 2.
Response: Thank you for your comment. The drafting team has not included any reporting activity within the standard. The drafting team believes that reporting will be determined by the RC and ERO. **The drafting team thanks you for catching this error and they have made the necessary modifications.**		
South Carolina Electric and Gas		South Carolina Electric and Gas supports the comments submitted by the SERC OC Standards Review Group.
Response: Thank you for your comment. Please refer to our response to the comments submitted by the SERC OC Standards Review Group.		
Constellation Energy Control and Dispatch, LLC		The Applicability section of the standard takes an unusual format. 4.1.1 and 4.1.2 seem more appropriate as sub requirements for R1 and R2, respectively, than as applicability statements. If the applicability section includes Balancing Authorities and Balancing Authorities Providing Overlap Regulation Service, then 4.1.1 and 4.1.2 should move to the sub-requirements section.
Response: Thank you for your comment. The drafting team has modified the applicability to no longer reference BAs providing		

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Overlap Regulation Service.		
SPP Standards Review Group		The effective date as proposed in the draft standard is six (6) months following approval by applicable regulatory authorities. This is too short. We would suggest a 12-month window before the approved standard becomes effective. This provides the BA with time to consult with EMS vendors, design and retrofit necessary changes to existing control algorithms and testing - both acceptance testing for the AGC changes and parallel testing alongside existing AGC systems to ensure satisfactory operation. Currently, the BAs that are participating in the BAAL field trial are exempt from CPS2 compliance. During the transition from BAL-001-0.1a to BAL-001-1, there need to be exemptions extended during testing of BAAL control schemes. Currently SPP is working on a project to consolidate BAs within the region into a single BA. The proposed completion date is scheduled for March 1, 2014. If the standard were to become effective prior to this date, considerable expense and effort would be expended needlessly once the consolidation takes place. Could SPP request a regional variance for exemption from R2 until March 1, 2014?
Response: Thank you for your comment. The drafting team has seen BAs make modification to their EMS for the field trial within 3 months and therefore believes that the six month window is appropriate. **The exemption would stay in effect until the new standard goes into effect.** **A variance can be requested by anyone at anytime.**		
ACES Power Marketing Standards Collaborators		The implementation plan states that six months are required to make software changes to an EMS to accommodate the change to the standard. Is this based on the actual experience of those participating in the field trial? If not, the drafting team should reach out to the field trial participants to find out how long it took them to implement the changes. If it is, the documentation should state this clearly. In the first paragraph in the background and rationale section on page 4 of the

Organization	Yes or No	Question 11 Comment
		background document, “Compliance Performance Standard” should be “Control Performance Standard”. We think the new variation on the meter error term in the ACE equation is actually more confusing than the previous meter error term. The previous term was clear that hourly integration of the instantaneous meter values was being compared to the revenue quality meters. The new term does not state this as clearly. ACE needs to be capitalized in the second paragraph of the Data Retention section. To the extent that a responsible entity is subject to periodic reporting that will demonstrate compliance, we question the need for a data retention period of one full year. No more than three months of BAAL data should be required We disagree with requiring data to be retained for up to four years. First, the current standard only required the BA to retain the data for one year. No justification has been provided for raising the bar. Second, NERC receives periodic reports for CPS1 and currently for the BAAL limits. Thus, they can retain these reports if they need them. One year is sufficient time for NERC to raise any issues or questions about the input data used in the calculation for CPS1 and the BAAL limits. If no issues have arisen to cause NERC to request data retention for a longer period within the first year, then the responsible entity should not be required to retain it. Third, retention of data beyond the three year BA audit cycle is not consistent with NERC Rules of Procedure. Section 3.1.4.2 of Appendix 4C - Compliance Monitoring and Enforcement Program states that the compliance audit will cover the period from the day after the last compliance audit to the end date of the current compliance audit. The minimum resolution for actual frequency in Attachment 2 should be removed. First, it is essentially a requirement and requirements cannot be written into attachments. Second, it raises the bar over the frequency measurement accuracy established in BAL-005-0.1b R17 without justification.
Response: Thank you for your comment. The drafting team has seen BAs make modification to their EMS for the field trial within 3 months and therefore believes that the six month window is appropriate		

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The drafting team thanks you for finding this error. The drafting team has made the necessary modifications to correct this oversight. **The Net Metering Error (NME) has changed to Interchange Meter error (IME). Based on industry comments received, the drafting team has elected to not make any modifications to the term.** **The drafting team thanks you for finding this error. The drafting team has made the necessary modifications to correct this oversight.** **The drafting team believes that data should be retained as defined in the current standard. This is the same as required by many other standards in effect. A quick search of the Rules of Procedure (ROP) did not find anything that would imply that this recommended data retention period is conflicting with the ROP.** **The drafting team has removed the resolution from the attachment.**		
KCP&L		The proposed BAAL measure in replacement of the current CPS2 removes a performance measure that is independent of the rest of the interconnection performance. The current CPS2 is based on interconnection statistical performance and provides an entity with a measure that is an indication of how well an entity is balanced with energy resources to load obligations. The proposed BAAL measure is very close in concept to the measure for the current CPS1 and has a similar effect. As the interconnection frequency moves away from 60 Hz the BAAL boundaries shrink and can shrink to levels that are lower than metering accuracies inherent in control systems and the normal variations of ACE that can occur. The current CPS1 ties an entities control performance to rest of the interconnection as it is a function of actual system frequency. The current CPS2 reflects an entities independent performance for maintaining an acceptable balance of load to energy resources. It is important for an entity to have some measure of its own performance apart from the performance of the interconnection. There may be a reliability need to "tighten" the performance metrics around what constitutes good and acceptable "balance"of load obligations and energy resources, but it is important to maintain a metric that reflects an entities performance apart from the rest of the interconnection.
Response: Thank you for your comment. The drafting team agrees that CPS2 is an independent measure of a BAs performance. It is		

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not a function on Interconnection Frequency and can result in individual BA control that does not support interconnection frequency. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do have a detrimental effect on reliability.		
Powerex Corp.		The recent increase in intermittent resources, such as wind and solar generation, has increased balancing challenges due to variability in generation, driving actual generation to differ from scheduled generation. By eliminating CPS2 and replacing it with the relaxed BAAL limit, the proposed performance standard does not address the potential for a single BA to lean on the grid with deliberate unscheduled energy flows or inadvertent energy, taking any accumulated benefits for itself and possibly even jeopardizing reliability and/or harming other entities on the grid. The detrimental impacts of deliberate inadvertent flows to load customers and transmission customers on the grid could be substantial. Price signals generally drive correlated behavior across multiple market participants. Load customers could have service interrupted if multiple BAs, following market price signals, all decided to inaccurately schedule their expected hourly average generation in the same direction in the same hour, without sufficient prospective ability to restore and sustain "balance" within the BAA, if needed. Transmission customers are likely to be frequently interrupted due to unscheduled flows, if one or more BAs take advantage of the BAAL limit and deliberately rely on inadvertent energy to meet their expected BAA imbalances, as BAA imbalances can undisputedly occur without knowledge or regard to transmission availability or coordination. In order 890, FERC made it clear that it was inappropriate for generators within a BAA to "dump power on the system or lean on other generation...The tiered imbalance penalties adopted in the Final Rule generally provide a sufficient incentive not to engage is such behavior". The Commission unambiguously wanted to encourage accurate scheduling of a generator's output within a BAA. Though at the time of the 890 ruling the Commission chose not to impose similar rules preventing BAs themselves and their affiliate generators from leaning on the grid, they recognized that there was a potential for such behavior, and noted that it could take action under FPA section 215 if such deliberate inadvertent flows were degrading reliability or harming other

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		customers.These issues have brought to the forefront the importance of the public release of BAA-specific hourly inadvertent flow data. The inadvertent flows resulting from the operations of one BAA can have a significant impact on its neighboring BAAs and the transmission customers on the grid. Powerex feels it public release of the hourly inadvertent flow data would give all entities a better understanding of the way the BAAs are operating in their region and facilitate coordinated operations to ensure the adverse impacts of inadvertent flows can be appropriately minimized. The broader wholesale electricity grid may be a valuable balancing resource for both reducing the wear and tear on dispatchable generation resources. However, it is imperative to reliability, open access transmission principles, and proper functioning wholesale energy markets, that increased utilization of the electricity grid's inherent transmission flexibility and inherent frequency flexibility be achieved within an appropriate framework. More specifically, before implementing the BAAL limits in BAL-001 and allowing BAs to use the broader electricity grid deliberately as a balancing resource, by either reducing the amount of balancing reserves dispatched, and/or potentially reducing the amount of balancing reserves carried, the following may be required: 1. Enforceable rules and processes that ensure that BAA imbalances can be immediately limited if applicable transmission flowgate limits are reached. Unscheduled energy flows resulting from BAA imbalances should clearly have the lowest priority access to transmission, behind all customers who have invested, and appropriately scheduled, to use the transmission network. 2. Minimum BA balancing reserve requirements, set prospectively, to ensure that the amount of balancing reserves carried on the broader grid are sufficient to maintain grid reliability. Reliance on performance standards, as a lagging indicator, may be insufficient to ensure reliability on a prospective basis, particularly as such performance standards become more liberal such as with the proposed BAAL limits. In Order 693, FERC noted that while the control performance standard metric like Requirement 2, is useful in identifying trends relating to poor regulating practices, specification of minimum reserve requirements to be maintained at all times would

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		complement the control performance standard metrics by providing real-time requirements necessary for proper control. FERC directed the ERO to develop a process to calculate the minimum regulating reserve for a BA, taking into account expected load and generation variation and transactions being ramped into or out of the BA. 3. The benefits of utilizing the flexibility in the grid are appropriately allocated to all grid participants, through either BAA consolidation or BAA coordination frameworks, and FERC cost allocation oversight. Individual BAAs should not be able to lean on the grid disproportionally, hoping that there are sufficient BAs with a more conservative approach to Good Utility Practice to maintain the grid's reliability, at their customers' inequitable expense. 4. Hourly BAA imbalance data is made public (after-the-fact, in a similar manner to the way scheduled transmission usage is released on OASIS), so that NERC, the Regional Entities, BAs, impacted transmission customers, etc, can use the data to monitor the inappropriate use of unscheduled flow.Unless BAL-001 (or the framework made up by the BARC standards) includes requirements for performance in a manner that prevents an entity from deliberately leaning on the grid to gain commercial advantage, it would be inappropriate to adopt the standard in its present form.
Response: Thank you for your comment. **1) The drafting team believes that this is outside the scope of the industry approved SAR and that transmission priority is a NAESB concern. The drafting team recommends that you submit a SAR if you feel that this should be pursued further.** **2) The drafting team believes that your reference to a minimum regulating reserve requirement from FERC Order 693 is contained in Phase 2 of Project 2010-14.** **3 & 4) There have not been any reliability issues raised by any RC during these calls. The drafting team encourages BA's and RC's to share any specific occurrences that they feel have reliability impacts as a result of operating under BAAL. BAAL was designed to provide for better control by allowing power flows that do not have a detrimental effect on reliability but restrict those that do**		

Organization	Yes or No	Question 11 Comment
have a detrimental effect on reliability.		
Bonneville Power Administration		The sub-requirements of 4.1 of the applicability section contain instructions. BPA suggests that only 4.1 and 4.1.3 (a new 4.2 created) be used instead and the rest eliminated and added as a requirement. Please refer to the WECC Reliability-based Control Field Trial Final Report July 2012 Performance Work Group Draft document. • Frequency Error • Manual Time Error Corrections • Transmission issues • Unscheduled flow events • Small BAsIn the field trial, there is direction on when the RC should intervene during frequency deviations below the FTL. BPA believes this should be retained either informally or formally in the standard.
Response: Thank you for your comment. The drafting team has modified the applicability section to address your comment and other comments from the industry. **The drafting team plans to review the paper you referenced once the document has been published.**		
American Electric Power		There needs to be an understanding and appreciation of the increasing number of newly-registered market participant Generator Operators that are not from the traditional, vertically integrated utility environment, and their impact on a Balancing Authority's ability to balance. We encourage the SDT to think of opportunities to develop appropriate requirements in order to ensure that Generator Operators can help support the objectives of balancing load and generation in a reliable manner.The background information on balancing sometimes refers back to the former "NERC Policy", at a time when the preceding "Control Area" model applicability had different operating characteristics than today's more granular functional model entity in terms of Balancing Authority, Generator Operator, Load Serving Entity (Demand

Organization	Yes or No	Question 11 Comment
		Side Load Management), Market Operator, etc. The stated compliance applicability within the proposed Standard fails to address inherent impact of these other functional entities and variables on a Balancing Authority's sole ability to comply with these requirements in today's actual practice. Balancing Authorities that are part of regional energy and/or ancillary service markets may have unique challenges with respect to deployment of Balancing Authority resources. For example, the failure of following market deployment may only involve a financial market charge, however the results could have significant impact on Balancing Authority obligations.
Response: Thank you for your comment. FERC has stated that it is the ultimate responsibility of the BA to ensure balance of load and generation in a reliable manner.		
Arizona Public Service Company		No comments
NV Energy		No.
Idaho Power Company		None

END OF REPORT