



The Reliability-based Control SAR Drafting Team ("SAR DT") would like to thank everyone who submitted comments on Draft 1 of the Reliability-based Control SAR. This SAR was posted for a 30-day public comment period from May 15 through June 13, 2007. The SAR DT asked stakeholders to provide feedback on the standard through a special standard Comment Form. There were 27 sets of comments, including comments from more than 60 different people from more than 35 companies representing 9 of the 10 Industry Segments as shown in the table on the following pages.

Based on the comments received, the SAR DT is recommending that the SAR Purpose Statements be re-worded to clarify the previous items from Version 1 of the SAR and to include the areas to be addressed under FERC Order 693:

- A) To maintain Interconnection frequency within predefined frequency limits under all conditions (i.e., normal and abnormal), in order to manage frequency-related issues such as frequency oscillations, instability and unplanned tripping of load, generation or transmission that adversely impact the reliability of the Interconnection. (Work brought into this SAR from Draft BAL-007 though BAL-011)
- B) To support corrective action by the BA when excessive Area Control Error (as determined by this standard) may be contributing to or causing action to be taken to correct an SOL/IROL problem.
- C) To prevent Interconnection frequency excursions of short-duration attributed to the ramping of Interchange Transactions.
- D) To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures.
- E) To address the directives of FERC Order 693.
 - 1. Add data retention requirements to all standards.
 - 2. Require a continent-wide contingency reserve policy.
 - 3. Modify BAL-003 – Frequency Response and Bias.
 - 4. Require minimum Regulating Reserves for a Balancing Authority.

With respect to items B, C and D above, this SAR will address a number of issues that have been identified by many from one or more of the interconnections including: 1) the relationship between ACE, SOL/IROL, and TLR, and 2) Frequency Excursions occurring during ramping.

With respect to item C above, the SAR DT believes that ramp compliance is a Balancing Authority issue that each would address internally with its resource operators, therefore the SARDT has removed any references to resources within the Balancing Authority in the applicability of the SAR related to ramping. The SAR DT agrees that this NAESB business practice (using 20 minute ramps) could be considered in the Eastern Interconnection as it is already followed in the WECC. As movement to a different business practice may have

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implications to NERC Standards, we will pass this comment along to the NERC RS and IS for their consideration and, perhaps, further discussion with NAESB. The questions raised with respect to TLR will be further investigated in the Standards Development Process.

Item E in the above Purpose Statements contains the four items that we feel are to be included in this SAR from FERC Order 693. Our interpretation of our obligations of FERC Order 693 are consistent with a comment received from Duke Energy:

FERC directives, including those in Order No. 693, must be addressed by NERC. However, FERC noted that it did not mandate particular outcomes in Order 693, but expects the ERO to respond with equivalent, fully supported alternatives. This is consistent with FERC's statutory authority in Section 215 of the Federal Power Act which requires that FERC "...give due weight to the technical expertise of the Electric Reliability Organization with respect to the content of a proposed standard or modification to a reliability standard..."

The revised Draft SAR Version 2 will be posted for a subsequent comment period.

In this "Consideration of Comments" document stakeholder comments have been organized so that it is easier to see the responses associated with each question. All comments received on the standards can be viewed in their original format at:

http://www.nerc.com/~filez/standards/Reliability-Based_Control_Project_2007-18.html

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Gerry Adamski, at 609-452-8060 or at gerry.adamski@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.¹

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

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The Industry Segments are:

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

Commenter		Organization	Industry Segment											
			1	2	3	4	5	6	7	8	9	10		
1.	Anita Lee (G3)	Alberta Electric System Operator		✓										
2.	Thad Ness	American Electric Power	✓				✓	✓						
3.	Bart McManus	Bonneville Power Administration	✓											
4.	Brent Kingsford (G3)	California ISO		✓										
5.	Alan Gale	City of Tallahassee (TAL)					✓							
6.	Greg Tillitson	CMRC												✓
7.	Greg Rowland	Duke Energy	✓		✓				✓					
8.	Doug Hils	Duke Energy	✓											
9.	Sam Holeman	Duke Energy	✓											
10.	Denver York	East Kentucky Power Cooperative	✓		✓									
11.	Howard F. Illian	Energy Mark, Inc.									✓			
12.	Will Franklin	Entergy Services, Inc.							✓					
13.	Steve Myers (G3)	ERCOT		✓										
14.	Doug Hohlbaugh	FirstEnergy Corp.	✓		✓			✓	✓					
15.	Dave Folk	FirstEnergy Corp.	✓											
16.	John Reed	FirstEnergy Corp.	✓											
17.	Ed DeVarona (G1)	Florida Power & Light Co.	✓											
18.	Eric Senkowicz (G1)	Florida Reliability Coordinating Council		✓										
19.	Roger Champagne (I) (G2)	Hydro-Québec TransÉnergie	✓											
20.	Ron Falsetti (I) (G2)	Independent Electricity System Operator		✓										
21.	Kathleen Goodman (I) (G2)	ISO New England, Inc.		✓										
22.	Matt Goldberg (G3)	ISO New England, Inc.		✓										
23.	Brian Thumm	ITC Transco	✓											
24.	Joseph DePoorter	Madison Gas & Electric Co.					✓							

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	Commenter	Organization	Industry Segment											
			1	2	3	4	5	6	7	8	9	10		
25.	Craig McLean	Manitoba Hydro	✓		✓			✓	✓					
26.	Jason L. Marshall	Midwest ISO, Inc.		✓										
27.	Bill Phillips (G3)	Midwest ISO, Inc.		✓										
28.	Michael Calimano	New York ISO		✓										
29.	Jim Castle (G3)	New York ISO		✓										
30.	Ralph Rufrano (I) (G2)	New York Power Authority	✓											
31.	Guy V. Zito (G2)	Northeast Power Coordinating Council												✓
32.	Joseph C. Dobes	Northern Indiana Public Service Co.	✓		✓									
33.	William H. SeDoris	Northern Indiana Public Service Co.	✓		✓									
34.	Al Adamson (G2)	NY State Reliability Council												✓
35.	James Castle	NYISO		✓										
36.	Greg Campoli (G2)	NYISO		✓										
37.	David Kulisek	Omaha Public Power District	✓		✓			✓					✓	
38.	Alicia Daugherty (G3)	PJM Interconnection, L.L.C.		✓										
39.	Phil Riley	PSC of South Carolina											✓	
40.	Mignon L. Clyburn	PSC of South Carolina											✓	
41.	Elizabeth B. Fleming	PSC of South Carolina											✓	
42.	G. O'Neal Hamilton	PSC of South Carolina											✓	
43.	John E. Howard	PSC of South Carolina											✓	
44.	Randy Mitchell	PSC of South Carolina											✓	
45.	C. Robert Moseley	PSC of South Carolina											✓	
46.	David A. Wright	PSC of South Carolina											✓	
47.	Frank McElvain	RDRC												✓
48.	Tom Botello (G4)	SCE												✓
49.	Christopher M. Turner	Seattle City Light					✓							
50.	Steve Wallace (G1)	Seminole Electric Cooperative					✓							
51.	J.T. Wood	Southern Company Services, Inc.	✓											
52.	Raymond Vice	Southern Company Services, Inc.	✓											
53.	Marc Butts	Southern Company Services, Inc.	✓											
54.	Jim Viikinsalo	Southern Company Services, Inc.	✓											
55.	Charles Yeung (G3)	Southwest Power Pool		✓										
56.	Jay Brew	Steel Manufacturers Association								✓				

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Commenter		Organization	Industry Segment											
			1	2	3	4	5	6	7	8	9	10		
57.	Earl W. Shockley	Tennessee Valley Authority (TVA)	✓											
58.	Keith Morris	Tennessee Valley Authority (TVA)	✓											
59.	Larry Goins	Tennessee Valley Authority (TVA)	✓											
60.	Bob Dalrymple	Tennessee Valley Authority (TVA)	✓											
61.	Sue Mangum-Goins	Tennessee Valley Authority (TVA)	✓											
62.	Edd Forsythe	Tennessee Valley Authority (TVA)	✓											
63.	Nancy Bellows (G4)	WACM												✓

I – Indicates that individual comments were submitted in addition to comments submitted as part of a group

G1 – Florida Reliability Coordinating Council (FRCC)

G2 – NPCC CP9 Reliability Standards Working Group (NPCC CP9)

G3 – ISO/RTO Standards Review Committee (IRC)

G4 – WECC Reliability Coordination Comments Work Group (WECC RCCWG)

Index to Questions, Comments, and Responses

1. Do you think that there is a reliability-related reason to support developing requirements to address the following? To maintain interconnection frequency within predefined frequency limits under all conditions (i.e., normal and abnormal), to prevent frequency-related instability; unplanned tripping of load or generation; or controlled separation or Cascading outages that adversely impact the reliability of the interconnection.	7
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1. **Do you think that there is a reliability-related reason to support developing requirements to address the following?** To maintain interconnection frequency within predefined frequency limits under all conditions (i.e., normal and abnormal), to prevent frequency-related instability; unplanned tripping of load or generation; or controlled separation or Cascading outages that adversely impact the reliability of the interconnection.

Summary Consideration: Most stakeholders who responded to this question indicated support for developing these requirements. Some stakeholders suggested improvements to the wording, and the drafting team modified this section of the SAR (Purpose Statement A) as follows:

A) To maintain interconnection frequency within predefined frequency limits under all conditions (i.e., normal and abnormal), to ~~prevent manage~~ frequency-related ~~issues such as frequency oscillations,~~ instability, ~~and~~ unplanned tripping of load, ~~or~~ generation ~~or transmission,~~ or controlled separation or Cascading outages that adversely impact the reliability of the interconnection.

Question #1			
Commenter	Yes	No	Comment
American Electric Power		<input checked="" type="checkbox"/>	We already have sufficient Standards that, if enforced correctly would have an appropriate result.
<p>Response: The SAR DT feels that the majority of the industry feels that there is a need for this SAR to help reduce the cost of regulation while ensuring reliable operation. This SAR will address a number of issues that have been identified by many on one or more of the interconnections including: 1) the relationship between ACE, SOL/IROL, and TLR, 2) Frequency Excursions occurring during ramping, and FERC Order 693 directives. The FERC directives alone are sufficient justification for moving forward with this SAR.</p>			
BPA		<input checked="" type="checkbox"/>	Studying frequency over the past 10 years with the CPS1 and CPS2 standards in place has shown no degradation of system frequency. There have not been instances of frequency-related instability due to control actions, DCS covers unplanned tripping of load and generation and during uncontrolled separation or cascading outages, no standard will keep frequency in bounds until things have settled out.
<p>Response: The SAR DT feels that the majority of the industry feels that there is a need for this SAR to help reduce the cost of regulation while ensuring reliable operation. This SAR will address a number of issues that have been identified by many on one or more of the interconnections including: 1) the relationship between ACE, SOL/IROL, and TLR, 2) Frequency Excursions occurring during ramping, and FERC Order 693 directives. The FERC directives alone are sufficient justification for moving forward with this SAR.</p>			
Seattle City Light		<input checked="" type="checkbox"/>	Current standards handle this issue adequately.
<p>Response: The SAR DT feels that the majority of the industry feels that there is a need for this SAR to help reduce the cost</p>			

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Question #1			
Commenter	Yes	No	Comment
<p>of regulation while ensuring reliable operation. This SAR will address a number of issues that have been identified by many on one or more of the interconnections including: 1) the relationship between ACE, SOL/IROL, and TLR, 2) Frequency Excursions occurring during ramping, and FERC Order 693 directives. The FERC directives alone are sufficient justification for moving forward with this SAR.</p>			
TAL		<input checked="" type="checkbox"/>	<p>The statement above is already addressed in the current standards.</p> <p>EOP-002-2 R5 states "A deficient Balancing Authority shall only use the assistance provided by the Interconnection's frequency bias for the time needed to implement corrective actions." This requirement is in effect at all times, not just when in a declared Emergency.</p> <p>Additional actions are specified in R6 and R7 when unable to meet CPS performance standards. We feel this is the place that says you should always be striving to return ACE to within L10. You can't wait until the end of the month to see if you are not meeting the CPS standard and then take action!</p> <p>This is where it prevents entities from "dragging 100's of MWs". If a schedule is cut by a TLR, you are still "deficient" and need to get back within limits.</p> <p>The goals of preventing instability, uncontrolled separation and cascading outages are already in the standards. Why do we need to add "frequency related to this goal? Should we then add "line flow related" or "generator loss related" to the same goal?</p>
<p>Response: The SAR DT agrees that the current standards address these concepts, however there are not sufficient measures to allow for compliance and enforcement. The SAR DT addressed the responders comment by revising part a) of the purpose of the SAR as shown in the Summary Consideration above</p>			
FRCC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>FRCC contains the highest underfrequency load shedding set-points in the Eastern Interconnection and therefore supports maintaining frequency. We also support all the reliability concepts listed above.</p> <p>Although, in our opinion, the existing Balancing and Transmission Operating standards already contain requirements that adequately address the items listed above and therefore there is not a reliability-related reason to support developing additional requirements.</p> <p>We also understand that there are technical bases that support refining the frequency requirements of the Balancing standards as was proposed in the previously balloted BAAL standards. As a Region we had a mix of support for the standards and would encourage the DT that is pursuing the BAAL concept to address the core differences within the Balancing requirements and not try to address ALL periphery reliability</p>

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Question #1			
Commenter	Yes	No	Comment
			requirements that may be encountered during the course of trying to balance generation to load.
<p>Response: The SAR DT agrees that the current standards address these concepts, however there are not sufficient measures to allow for compliance and enforcement. The SAR DT would appreciate more input as to which periphery reliability requirements should not be included.</p>			
Duke	<input checked="" type="checkbox"/>		<p>Yes. Duke Energy supports the concepts behind BAL-007 through BAL-011 and agrees with expansion of the field test to bring more Balancing Authorities under its scope to support the Interconnection frequency. However as the parameters are developed to address the transmission-related and short-term frequency excursion aspects of this proposed Standard, we need to build on the field test to add the additional parameters and those under the field test monitoring. As all Balancing Authorities who operated under the field test supported the adoption of the proposed standards, we believe it is important that more Balancing Authorities have the opportunity to evaluate their operation under the proposed standards and add to the reliable operation of the interconnected system by taking action when their ACE is impacting the Interconnection frequency beyond their Balancing Authority ACE Limit.</p> <p>As the majority of comments supported BAL-007 through BAL-011 and those not in support were primarily focused on transmission-related concerns of NPCC and WECC, Duke Energy would not support changes being made to BAL-007 through BAL-011 until work is done on the transmission-related areas of this SAR, with the exception of the work necessary to address the WECC-specific concerns on the selection of the frequency limits.</p>
<p>Response: The SAR DT agree that the initial considerations need to address the transmission loading related to ACE and the FERC Order 693 directives, but also recognize that in addressing the transmission and FERC issues we may also need to make other changes in BAL-007 through BAL-011. We agree that changes should be rolled into the field test as we move forward.</p>			
Southern	<input checked="" type="checkbox"/>		<p>There are clear indicators that Eastern Interconnection frequency control is severely stressed during the 0600/2200 hour Peak Period boundaries. The fact that interconnection frequency runs consistently higher than setpoint frequency and that Time Error Corrections are called for frequently yet are not particularly effective is also troubling and indicative of problems with frequency control. We feel strongly that a set of standards is needed to control these problems. The requirement to avoid all unplanned tripping of load or generation is simply unrealistic. Equipment failures at a generating plant or on the transmission or distribution system will always cause some amount of unavoidable interruption.</p>

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Question #1			
Commenter	Yes	No	Comment
<p>Response: These are some of the issues that this SAR is intended to resolve. The SAR DT agree that it is unrealistic to avoid all unplanned tripping of load or generation and have modified the wording appropriately. Please see the Summary Consideration to see the specific changes made to this section of the SAR.</p>			
Steel Manufacturers	<input checked="" type="checkbox"/>		MA supported the previous proposal to adopt BAL-007 through BAL-011 and supports the current SAR. The proposed action outlined in the SAR appropriately requires control actions that truly support system frequency while reducing unnecessary control actions that have an adverse impact on system frequency and increase the cost of operating the interconnected system. The SAR accurately notes that the previously proposed BAL-007 through BAL-011 standards had widespread stakeholder support, and unanimous support among those that field tested the standards. The SAR should, as proposed, retain the BAL-007 through BAL-011 standards and work to address specific reliability based concerns raised in comments filed in opposition to those proposed standards.
<p>Response: The SAR DT agrees with the commenter but also recognizes that in addressing the transmission and FERC issues of this SAR, we may also need to make other changes in draft BAL-007 through BAL-011.</p>			
TVA	<input checked="" type="checkbox"/>		Yes, TVA supports all the metrics and concepts associated with BAL-007 - BAL-011. We also support the extension and expansion of the proof of concept field trial.
<p>Response: The SAR DT agrees with the commenter but also recognizes that in addressing the transmission and FERC issues of this SAR, we may also need to make other changes in draft BAL-007 through BAL-011.</p>			
Energy Mark	<input checked="" type="checkbox"/>		This is the primary goal of the balancing standards.
<p>Response: The SAR DT agrees with the commenter.</p>			
FirstEnergy	<input checked="" type="checkbox"/>		FirstEnergy believes the proposed standards address improvements over existing control performance standards by enhancing frequency control.
<p>Response: The SAR DT agrees with the commenter but also recognizes that in addressing the transmission and FERC issues of this SAR, we may also need to make other changes in draft BAL-007 through BAL-011.</p>			
Madison G&E	<input checked="" type="checkbox"/>		We feel that the BAAL concept as drafted in the original version of BAL-007 supports maintaining Interconnection frequency.
<p>Response: The SAR DT agrees with the commenter but also recognizes that in addressing the transmission and FERC issues of this SAR, we may also need to make other changes in draft BAL-007 through BAL-011.</p>			

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Question #1			
Commenter	Yes	No	Comment
NiSource	<input checked="" type="checkbox"/>		It is important that more BAs participate in the field trials. Those that are currently under the trials have supported the adoption of the proposed standards.
<p>Response: The SAR DT agrees and we are encouraging non-participants in the Eastern Interconnection to join the ongoing test. We are also in discussion with representatives from the WECC to design test parameters for a WECC field test.</p>			
IESO	<input checked="" type="checkbox"/>		
ISO-NE	<input checked="" type="checkbox"/>		
IRC	<input checked="" type="checkbox"/>		
ERCOT	<input checked="" type="checkbox"/>		
Entergy	<input checked="" type="checkbox"/>		
East Kentucky	<input checked="" type="checkbox"/>		
ITC	<input checked="" type="checkbox"/>		
Manitoba Hydro	<input checked="" type="checkbox"/>		
MISO	<input checked="" type="checkbox"/>		
NYISO	<input checked="" type="checkbox"/>		
NPCC CP9 RSWG	<input checked="" type="checkbox"/>		
OPPD	<input checked="" type="checkbox"/>		
PSC SC	<input checked="" type="checkbox"/>		
HQT	<input checked="" type="checkbox"/>		
WECC RCCWG	<input checked="" type="checkbox"/>		

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2. **Do you think that there is a reliability-related reason to support developing requirements to address the following?** To support elimination of SOL/IROL violations caused by excessive (as determined by this standard) Area Control Error (“ACE”).

Summary Consideration: The responses submitted by stakeholders indicate that there is no consensus on this issue. Several commenters misinterpreted what the drafting team had intended – the intent is to require additional limits or alternative limits on ACE to help address SOL/IROL violations since ACE can be a contributor to those violations. The drafting team revised Purpose Statement B as follows to clarify the intent:

B) To support **corrective action by the BA when elimination of SOL/IROL violations caused by excessive (as determined by this standard) Area Control Error (ACE) (as determined by this standard) may be contributing to or causing action to be taken to correct an SOL/IROL problem.**

Question #2			
Commenter	Yes	No	Comment
American Electric Power		<input checked="" type="checkbox"/>	We already have sufficient Standards that, if enforced correctly would have an appropriate result.
Response: The SAR DT is investigating alternatives to implement the stated requirement. In the balloting of the BRD standard, a significant minority recommended that this be addressed. This view has been reinforced in comments received on this SAR.			
Seattle City Light		<input checked="" type="checkbox"/>	Current standards handle this issue adequately.
Response: The SAR DT is investigating alternatives to implement the stated requirement. In the balloting of the BRD standard, a significant minority recommended that this be addressed. This view has been reinforced in comments received on this SAR.			
TAL		<input checked="" type="checkbox"/>	SOL/IROL violations need to be mitigated irregardless of the origin. A large ACE is not the SOL/IROL violation, the associated flows or overloads are.
Response: Based on the comments, the SAR DT believes that Purpose Statement B was not well written and that you and others may have misunderstood the SAR’s intent. The intent is to require additional limits or alternative limits on ACE to help address SOL/IROL violations since ACE can be a contributor to those violations. The SAR will be revised appropriately.			
FRCC		<input checked="" type="checkbox"/>	The FRCC could not support the elimination of SOL/IROL violations that result from excessive ACE. The elimination of compliance implications would degrade Interconnection reliability by allowing an increase in exposure to transmission SOL/IROL risks caused by excessive ACEs, particularly in cases where frequency is within limits. Condoning IROLs when frequency is within limits goes against conventional operating practices and many NERC reliability principles.
Response: Based on the comments, the SAR DT believes that Purpose Statement B was not well written and that you and others may have misunderstood the SAR’s intent. The intent is to require additional limits or alternative limits on ACE to help			

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Question #2			
Commenter	Yes	No	Comment
address SOL/IROL violations since ACE can be a contributor to those violations. The SAR will be revised appropriately.			
ITC		<input checked="" type="checkbox"/>	While elimination of SOL/IROL violations is a good requirement, it is unlikely that any significant number of such violations are actually caused solely by excessive ACE.
Response: The SAR DT agrees, however large ACE could be a contributor to an SOL/IROL violation.			
PSC SC		<input checked="" type="checkbox"/>	
ISO-NE NPCC CP9 RSWG HQT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Change the statement to the following, as it seems to be too specific as presently written: "To the extent practical, minimize the adverse impact on transmission facilities caused by large ACE values."
Response: The SAR DT modified the Purpose Statement B of the SAR in support of this comment. The revised statement in the SAR says: To support corrective action by the BA when excessive Area Control Error (as determined by this standard) may be contributing to or causing action to be taken to correct an SOL/IROL problem.			
IRC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Change the statement to the following, as it seems to be too specific: To the extent practical, minimize the adverse impact on transmission facilities caused by large ACE values.
Response: The SAR DT modified the Purpose Statement B of the SAR in support of this comment. The revised statement in the SAR says: To support corrective action by the BA when excessive Area Control Error (as determined by this standard) may be contributing to or causing action to be taken to correct an SOL/IROL problem.			
ERCOT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The actions taken to eliminate SOL/IROL violations probably should be stated in other standards. This standard could identify requirements to reduce ACE in balance between frequency control and contribution to flow distributions on the transmission system that contribute to SOL/IROL violations, but there must be a balance and, perhaps, an establishment of a priority of resolution; i.e., which problem is most important to solve, frequency off-normal or a limit violation?
Response: Based on the comments, the SAR DT believes that Purpose Statement B was not well written and that you and others may have misunderstood the SAR's intent. The intent is to require additional limits or alternative limits on ACE to help address SOL/IROL violations since ACE can be a contributor to those violations. The SAR DT revised the purpose statement. Please see the Summary Consideration. In addition, the SAR DT will pass along your comment to the Standard Drafting Team. The SAR DT understands that ACE will not affect transmission flows in a single BA Interconnection such as ERCOT.			

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Question #2			
Commenter	Yes	No	Comment
MISO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A balancing standard should not try to address the loop-flow issue. If that is the concern, then generation to load impacts need to be uploaded to the IDC rather than ACE. If the goal is to address the presumed likelihood of a BA having unbounded ACE and somehow frequency remaining normal, then the standard should have some cap on ACE. Such a cap should be much larger than L ₁₀ as L ₁₀ does not mandate corrective action for all excursions and also allows very poor control in one direction to be corrected by very poor control in the other.
<p>Response: The SAR DT agrees that the intent of Purpose Statement B is to limit excessive ACE to reduce the detrimental impact that it may have on the Transmission network.</p>			
Southern	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Although theoretically possible, this situation appears to be very improbable. If it occurs, there are adequate transmission flow relief standards to take care of it.
<p>Response: The SAR DT agrees, however large ACE could be a contributor to an SOL/IROL violation.</p>			
IESO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>We do not fully understand this objective. We agree that BAL standards or requirements should be developed with due consideration to transmission reliability impacts such as to limit ACE as a means of reducing parallel flows that may result in SOL violations or transmission congestion. However, we do not support development of any standard requirements that would stipulate actions to prevent/mitigate SOL/IROL violations or relieve transmission congestions. Requirements to take such actions are currently covered by other more pertinent standards. Further, the BAL standards are applicable primarily to the Balancing Authority, who may not have the capability to monitor transmission loading, SOLs and IROLs.</p> <p>While it is a worthwhile exercise to conduct field tests to assess whether any proposed BAL requirements (on frequency, etc.) can result in increased parallel flows or aggravated transmission loading to address WECC's and NPCC's concerns, developing requirements to support eliminating SOL/IROL violations appear to be outside of the scope of any proposed BAL standards.</p>
<p>Response: The intent of Purpose Statement B is to limit excessive ACE to reduce the detrimental impact that it may have on the Transmission network. The SAR DT is investigating alternatives to implement the stated requirement. In the balloting of the BRD standard, a significant minority recommended that this be addressed. This view has been reinforced in comments received on this SAR. Note that the SAR DT revised Purpose Statement B and the phrase, ". . . elimination of SOL/IROL violations caused by excessive (as determined by this standard) Area Control Error (ACE) . . ." has been replaced with the phrase, "when excessive Area Control Error (as determined by this standard) may be contributing to or causing action to be taken to correct an SOL/IROL problem."</p>			

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Question #2			
Commenter	Yes	No	Comment
BPA	<input checked="" type="checkbox"/>		In order for this standard to be acceptable, it cannot degrade reliability by allowing more unscheduled flow on constrained paths.
<p>Response: The intent of Purpose Statement B is to limit excessive ACE to reduce the detrimental impact that it may have on the Transmission network.</p>			
Duke	<input checked="" type="checkbox"/>		Though there are standards in place today to address actions to be taken by the Transmission Operator to relieve SOL/IROL problems, we believe that a "cap" on ACE could be determined in a balancing standard that clearly defines "excessive ACE" and limits the duration of operating in that area, as such operation could cause or contribute to an SOL/IROL problem, or otherwise burden its interconnected neighbors, no matter if the BA is supporting Interconnection frequency. This standard should not attempt to address "loop flow" and other associated problems that could occur even when ACE is zero. This standard should address what the appropriate tradeoffs are between supporting the interconnection frequency, with perhaps less generation control at times and more at others, and not burdening the interconnected neighbors by unacceptable unbalanced operations.
<p>Response: The intent of Purpose Statement B is to limit excessive ACE to reduce the detrimental impact that it may have on the Transmission network. The SAR DT modified Purpose Statement B of the SAR as shown in the Summary Consideration in support of your comments and those of other stakeholders who indicated that Purpose Statement B needed modification. .</p>			
Energy Mark	<input checked="" type="checkbox"/>		The TLR and other transmission reliability standards are currently blind to ACE error. As a consequence, it is possible for SOL/IROL violations to occur as a result of excessive ACE and cause the curtailment of commercial transactions without initiating steps to correct the ACE. This weakness in the current standards should be corrected. The current assumption is that CPS2 prevents the above from occurring, but careful investigation of the CPS2 requirement reveals that it could overconstrain unscheduled flows without benefit most of the time while allowing unscheduled flows to contribute to the above problem because it fails to constrain flows due to ACE in any manner as much as 10% of the time. The industry should be able to do better.
<p>Response: The intent of Purpose Statement B is to limit excessive ACE to reduce the detrimental impact that it may have on the Transmission network. The SAR DT modified Purpose Statement B of the SAR as shown in the Summary Consideration in support of your comments and those of other stakeholders who indicated that Purpose Statement B needed modification.</p>			
NYISO	<input checked="" type="checkbox"/>		The NYISO is interested in requirements that penalize for poor control performance that can aggravate unscheduled flows that result in SOL/IROL limits exceeded. The NYISO full

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Question #2			
Commenter	Yes	No	Comment
			appreciates that other standards exist that are specific to reacting to SOL/IROL limit violations. A requirement that limits excessive ACE will reduce the frequency of SOL/IROL limit violations caused by unscheduled flows.
<p>Response: The intent of Purpose Statement B is to limit excessive ACE to reduce the detrimental impact that it may have on the Transmission network. The SAR DT modified Purpose Statement B of the SAR as shown in the Summary Consideration in support of your comments and those of other stakeholders who indicated that Purpose Statement B needed modification.</p>			
NiSource	<input checked="" type="checkbox"/>		This standard should address the balance between frequency support and not burdening the inconnection with unacceptable unbalance.
<p>Response: The intent of Purpose Statement B is to limit excessive ACE to reduce the detrimental impact that it may have on the Transmission network. The SAR DT modified Purpose Statement B of the SAR as shown in the Summary Consideration in support of your comments and those of other stakeholders who indicated that Purpose Statement B needed modification.</p>			
TVA	<input checked="" type="checkbox"/>		We believe there is a need for direction in the BAL standards in regards to the BA's needed supportive actions during SOL/IROL events. We believe that the drafting team should help define excessive ACE and how it contributes to SOL/IROL violation..The standards should closely reflect the concepts and language of the IRO Standards. We believe that the standards should not address any concerns about "loop Flow" which can occur even when you have a zero ACE.
<p>Response: The intent of Purpose Statement B is to limit excessive ACE to reduce the detrimental impact that it may have on the Transmission network. The SAR DT modified Purpose Statement B of the SAR as shown in the Summary Consideration in support of your comments and those of other stakeholders who indicated that Purpose Statement B needed modification.</p>			
Entergy	<input checked="" type="checkbox"/>		
FirstEnergy	<input checked="" type="checkbox"/>		
OPPD	<input checked="" type="checkbox"/>		
Madison G&E	<input checked="" type="checkbox"/>		
Manitoba Hydro	<input checked="" type="checkbox"/>		
WECC RCCWG	<input checked="" type="checkbox"/>		

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3. **Do you think that there is a reliability-related reason to support developing requirements to address the following?** To prevent Interconnection frequency excursions of short-duration attributed to the ramping of on and off-peak Interchange Transactions.

Summary Consideration: Most stakeholders who responded to this question indicated that there is a reliability-related reason to support developing requirements to prevent Interconnection frequency excursions of short duration attributed to ramping of on and off-peak Interchange Transactions.

The drafting team did modify Purpose Statement C as follows:

C) To prevent Interconnection frequency excursions of short-duration attributed to the ramping of on and off-peak Interchange Transactions.

Question #3			
Commenter	Yes	No	Comment
FRCC		<input checked="" type="checkbox"/>	Ramping capabilities are addressed in existing interchange and balancing standards.
<p>Response: The intent of Purpose Statement C was to address the frequency excursions during shoulder periods that are typically associated with the implementation of 16 hour Interchange Transactions. However, more generally, this also includes resource management actions such as implementation of pumped storage mode changes, controllable load and generation. Historical operations performance did not show these types of excursions. However, recent frequency experience indicates recurring and predictable excursions during shoulder periods. The comments to the SAR support further investigation should be undertaken to understand the reliability significance of these excursions.</p>			
TAL		<input checked="" type="checkbox"/>	This requirement already exists in INT-005-1. R1 states: " Each involved Balancing Authority shall evaluate the Arranged Interchange with respect to" R.1.1.2 "Ramp (ability of generation maneuverability to)." The FRCC has gone to a 20 minute ramp between FRCC entities and have seen smaller ACE deviations since then.
<p>Response: The intent of Purpose Statement C was to address the frequency excursions during shoulder periods that are typically associated with the implementation of 16 hour Interchange Transactions. However, more generally, this also includes resource management actions such as implementation of pumped storage mode changes, controllable load and generation. Historical operations performance did not show these types of excursions. However, recent frequency experience indicates recurring and predictable excursions during shoulder periods. The comments to the SAR support further investigation should be undertaken to understand the reliability significance of these excursions. A potential solution could include extending the ramp to a longer duration.</p>			

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Question #3			
Commenter	Yes	No	Comment
Energy Mark	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The industry currently is using a statistically based control performance standard, CPS1. This standard allows maximum flexibility in control while still guaranteeing frequency based reliability. Although current operating history indicates that large frequency deviations are occurring during the ramping periods between on and off peak periods, analysis of the frequency density functions of the frequency error also indicate that these large frequency deviations are not outside the expected Gaussian distribution of frequency error on the Eastern Interconnection. This indicates that these deviations are not causing reliability problems beyond what should be expected for the method of control performance measurement selected. The advantage of using a statistically based measurement control standard is that it allows the individual BAs to choose when it is most economic to manage reliability risk and still guarantee the desired level of reliability for the interconnection. Therefore, based on current information available, these frequency excursions are not causing unreasonable reliability risk at this time. However, one must keep an open mind on these issues because the data can change over time and a situation that is not currently contributing unreasonable reliability risk could do so in the future. More discussion and investigation of this issue needs to be performed so that the industry can arrive at a solid consensus on this issue.
<p>Response: Because these frequency excursions are highly predictable, this predictability exposes the Interconnection to a different kind of risk than CPS1 was intended to address. The comments to the SAR support the need for further investigation to understand the reliability significance of these excursions.</p>			
Madison G&E	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	In general, we support the idea that short-duration frequency excursions should be prevented. However, this may be better addressed by correctly modeling ramp in determining NSI than including something in these standards.
<p>Response: The comments to the SAR support the need for further investigation to understand the reliability significance of these excursions.</p>			
Seattle City Light	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Improvements are of course always supported in the reliability arena, but existing standards handle this better than this proposal will.
<p>Response: The comments to the SAR support the need for further investigation to understand the reliability significance of these excursions. The SAR DT agrees that language enhancements will need to be made to incorporate the proper intent into the SAR.</p>			
American Electric Power	<input checked="" type="checkbox"/>		There needs to be enforceable requirements for Generator Operators to follow approved ramp profiles. The Interchange transaction standards need to address these requirements rather than the Balancing Resources and Load standards.

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Question #3			
Commenter	Yes	No	Comment
<p>Response: A possible method for determining whether the ramping capability was properly considered in the Interchange Transaction approval process could be in the form of a Balancing Standard where actual performance in meeting the scheduled ramp is measured. The SAR DT believes that this is a Balancing Authority issue that each Balancing Authority would address internally with its resource operators.</p>			
ERCOT	<input checked="" type="checkbox"/>		<p>ERCOT experienced a DCS event during the time in which a short-duration frequency excursion was occurring due to the ramping of on and off-peak Interchange Transactions. The units were ramping at maximum rate to try to accommodate the large changes in schedules. Because of this, there was no additional "response" in the units to restore frequency. As a result, ERCOT was unable to restore frequency within the timeframe of the DCS requirements and was charged with a DCS violation.</p> <p>If market operations cannot occur within existing reliability requirements without causing frequency excursions that cannot be mitigated within existing reliability requirements, then the reliability standards must address the problem and establish requirements which must be met by those who are participating in market activities such as interchange transactions.</p>
<p>Response: The SAR DT may seek further input from ERCOT on this subject.</p>			
BPA	<input checked="" type="checkbox"/>		<p>This means that the standard will need to look at a sub-30 minute time frame for compliance since many of the excursions seen during the ramping are less than 30 minutes.</p>
<p>Response: The SAR DT agrees that addressing the short duration excursions may require a sub-30 minute measure.</p>			
Duke	<input checked="" type="checkbox"/>		<p>Based upon the significant impact the coincident behavior of multiple systems can have on the frequency at the two periods of the day cited, Duke Energy believes that this could pose a reliability problem and should be evaluated further as no balancing standard addresses the excursions specifically.</p> <p>Duke Energy also supports that the standard should include in its scope the resources responsible for ramping appropriately within the BA Area to ensure that the BA doesn't have to utilize its Regulating and Contingency Reserves to balance its ACE due to the resource not following its ramp. Though the existing standards would support that the BA should evaluate all transactions against its ramping capability, and make adjustments as necessary to ensure that it can meet the expected ramp, we know that the best information may not be good enough if the resources associated with the transactions do not ramp appropriately in real-time. In other words, the BA may execute its plan exactly as required for evaluating its ramping capability yet still have problems if the resources</p>

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Question #3			
Commenter	Yes	No	Comment
			do not deliver. Any standards developed should require the BA to know their actual ramp capability at all times and to schedule their interchange accordingly. If BA knows that a change in schedules will exceed its ramp capability then a change should be required. These changes could include changing the ramp period of the schedule, modifying interchange to reduce ramp or bringing on more units to support the ramp.
<p>Response: A possible method for determining whether the ramping capability was properly considered in the Interchange Transaction approval process could be in the form of a Balancing Standard where actual performance in meeting the scheduled ramp is measured. The SAR DT believes that this is a Balancing Authority issue that each Balancing Authority would address internally with its resource operators.</p> <p>The comments to the SAR support the need for further investigation to understand the reliability significance of these excursions. The SAR DT agrees that language enhancements will need to be made to incorporate the proper intent into the SAR</p>			
IESO	<input checked="" type="checkbox"/>		While developing requirements in this area, the SDT should look at cost implications to the industry by performing a cost benefit study for any proposed measure(s).
<p>Response: The SAR DT will pass this comment along to the Standard Drafting team for its consideration when developing the appropriate requirements and measures. Drafting teams try to establish measures that do not require investment in additional resources.</p>			
MISO	<input checked="" type="checkbox"/>		We support this in general. Any standard developed should require the BA to know their ramp capability and to schedule their interchange accordingly (perhaps logging exceptions). The ramp capability should not be an arbitrary number that cannot be exceeded. For example, a BA can import more when load is ramping in coincident with the schedule change. If not properly crafted, this standard could have negative impact on reliability. It should not preclude a BA from importing a greater amount if it is experiencing a generation shortfall. NERC could also allow a load-following schedule (something that ramps continuously through the hour), which would minimize excursions at the top of the hour.
<p>Response: Thank you for your comment. The SAR DT would like to note that the current Standards do not prevent implementation of an Interchange Transaction that ramps continuously through the hour.</p>			
NiSource	<input checked="" type="checkbox"/>		BA should know their ramp capability and should schedule their interchange accordingly.

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Question #3			
Commenter	Yes	No	Comment
Response: The SAR DT agrees with this comment.			
NPCC CP9 RSWG HQT ISO-NE	<input checked="" type="checkbox"/>		This requirement should be applied to all peak periods. It is not clear whether the intent was that it would apply only to the on- to off-peak transition that is presently causing large frequency deviations.
Response: The comments to the SAR support the need for further investigation to understand the reliability significance of these excursions. Such investigation may also include whether this is specific to the on/off-peak transition or applicable to all hours.			
TVA	<input checked="" type="checkbox"/>		Accoring to the INT Standards the BA is required to verify and approve the capability of his ramp and the enery profile for the schedule he is approving . There should be a measurement that requires the BA to remain within a certain percentage of his approved ramp change for that time period. There are also concerns that the BA could violate ramping standards to address TLR's.
Response: : A possible method for determining whether the ramping capability was properly considered in the Interchange Transaction approval process could be in the form of a Balancing Standard where actual performance in meeting the scheduled ramp is measured. The SAR DT believes that this is a Balancing Authority issue that each would address internally with its resource operators. The SAR DT will pass this comment along to the Standard Drafting Team for its consideration.			
Southern	<input checked="" type="checkbox"/>		See question 1 above.
Response: These are some of the issues that this SAR is intended to resolve. The SAR DT agree that it is unrealistic to avoid all unplanned tripping of load or generation and has modified the wording appropriately.			
East Kentucky	<input checked="" type="checkbox"/>		
Entergy	<input checked="" type="checkbox"/>		
FirstEnergy	<input checked="" type="checkbox"/>		
IRC	<input checked="" type="checkbox"/>		
ITC	<input checked="" type="checkbox"/>		
Manitoba Hydro	<input checked="" type="checkbox"/>		
OPPD	<input checked="" type="checkbox"/>		
NYISO	<input checked="" type="checkbox"/>		
PSC SC	<input checked="" type="checkbox"/>		
WECC RCCWG	<input checked="" type="checkbox"/>		

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4. **Do you think that there is a reliability-related reason to support developing requirements to address the following?** To support timely transmission congestion relief by requiring corrective load/generation management within a defined timeframe when ACE is impacted by the curtailment of Interchange Transactions under Transmission loading relief procedures.

Summary Consideration: The responses submitted by stakeholders indicate that there is no consensus on this issue. Several commenters misinterpreted what the drafting team had intended – the intent is to require corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all Balancing Authorities. The drafting team modified the Purpose Statement D as follows:

D) To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when ACE is impacted by the curtailment of Interchange Transactions under participating in transmission loading relief procedures. (Could be a separate and individually-balloted Standard)

Question #4			
Commenter	Yes	No	Comment
American Electric Power		<input checked="" type="checkbox"/>	There must be a mature market mechanism to implement load management effectively.
<p>Response: Based on the comments, the SAR DT believes that Purpose Statement D was not well written and that you and others may have misunderstood the SAR's intent. The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. The SAR was revised to clarify this intent. Please see the Summary Consideration.</p>			
BPA		<input checked="" type="checkbox"/>	This is already addressed in other standards. The RBC standard could contribute to transmission congestion, but that was addressed in question 2 above.
<p>Response: Based on the comments, the SAR DT believes that Purpose Statement D was not well written and that you and others may have misunderstood the SAR's intent. The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. The SAR was revised to clarify this intent. Please see the Summary Consideration.</p>			
FRCC		<input checked="" type="checkbox"/>	This seems fundamental to "Balancing" and is already addressed within the standards. To try to address every potential variable that is experienced on the Interconnections and create a standard that addresses specific limits for specific scenarios will in our

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Question #4			
Commenter	Yes	No	Comment
			<p>opinion lead to additional confusion within the operating standards (and in extreme cases cause delays in operator response).</p> <p>The industry needs to get back to the idea of "matching generation (resources) and demand (load)". Granted, efforts at smoothing Interconnection frequency profiles by accelerating or delaying operator responses to balancing based on prevailing frequency seem appropriate but to standardize curtailment responses based on frequency seems counterproductive and fruitless due to the short durations of frequency excursions.</p>
<p>Response: Based on the comments, the SAR DT believes that Purpose Statement D was not well written and that you and others may have misunderstood the SAR's intent. The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. The SAR was revised to clarify this intent. Please see the Summary Consideration.</p> <p>Purpose Statement D was intended to relate to transmission loading relief procedures, not frequency excursions.</p>			
TAL		<input checked="" type="checkbox"/>	<p>The statement above is already addressed in the current standards.</p> <p>EOP-002-2 R5 states "A deficient Balancing Authority shall only use the assistance provided by the Interconnection's frequency bias for the time needed to implement corrective actions." This requirement is in effect at all times, not just when in a declared Emergency.</p> <p>Additional actions are specified in R6 and R7 when unable to meet CPS performance standards. We feel this is the place that says entities should always be striving to return ACE to within L10. You can't wait until the end of the month to see if you are not meeting the CPS standard and then take action!</p> <p>The industry needs to get back to the idea of "matching generation (resources) and demand (load)", not try to be able to "drag 100's of MW's" under the disguise of trying to help frequency.</p>
<p>Response: The SAR DT agrees that the current standards address these concepts, however there are not sufficient measures to allow for compliance and enforcement. Based on the comments, the SAR DT believes that Purpose Statement D was not well written and that you and others may have misunderstood the SAR's intent. The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all</p>			

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Question #4			
Commenter	Yes	No	Comment
<p>BA's. The SAR was revised to clarify this intent. Please see the Summary Consideration.</p> <p>Purpose Statement D was intended to relate to transmission loading relief procedures, not frequency excursions.</p>			
IESO		<input checked="" type="checkbox"/>	See our comments under Q2.
<p>Response: Based on the comments, the SAR DT believes that Purpose Statement D was not well written and that you and others may have misunderstood the SAR's intent. The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. The SAR was revised to clarify this intent. Please see the Summary Consideration.</p>			
TVA		<input checked="" type="checkbox"/>	We believe the Reliability-Based Control Standards should focus on Frequency and ACE management. "Congestion Management" reflects a jump into the TLR process; due to the complexity, this should be a separate Standard.
<p>Response: The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. One method to ensure timely congestion relief could be to require specific ACE limits to be met within a defined timeframe in response to TLR. Therefore, the SAR DT feels that it is appropriate for this statement to be included in the SAR.</p>			
IRC		<input checked="" type="checkbox"/>	See our comments under Q2.
<p>Response: The SAR DT modified Purpose Statement D of the SAR. The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. One method to ensure timely congestion relief could be to require specific ACE limits to be met within a defined timeframe in response to TLR.</p>			
ITC		<input checked="" type="checkbox"/>	
Madison G&E	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	This is another important concept, however, it seems to be addressed by TLR and may not belong in these standards.
<p>Response: The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. One method to ensure timely congestion relief could be to require</p>			

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Question #4			
Commenter	Yes	No	Comment
specific ACE limits to be met within a defined timeframe in response to TLR. Therefore, the SAR DT feels that it is appropriate for this statement to be included in the SAR.			
MISO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	We believe this is already addressed in TLR. Can anyone provide an example where this has been a problem?
<p>Response: The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. One method to ensure timely congestion relief could be to require specific ACE limits to be met within a defined timeframe in response to TLR. Therefore, the SAR DT feels that it is appropriate for this statement to be included in the SAR.</p>			
NPCC CP9 RSWG HQT ISO-NE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Change the statement to the following, as it seems to be too specific as presently written: To the extent practical, minimize the adverse impact on transmission facilities caused by large ACE values. With respect to the specific text about TLRs, it seems to cover the case when a TLR takes away energy from a Balancing Area that results in a large negative ACE. However, it does not seem to address the case that a large ACE is imminently causing a TLR to be called and which could be avoided by reducing the large ACE. Also, similar phenomena can occur due to over-generation. While it is a robust solution to directly address problematic large ACE values within the context of TLRs, it is not clear whether this would be technically or economically feasible, and approximate methods may be necessary.
<p>Response: The SAR DT modified the revised purpose D but did not adopt the proposed language in its modification as the proposed language (to the extent practical', and 'minimize') is not measurable.</p> <p>Purpose Statement B already addresses an upper limit on ACE and when the standard is developed, the requirements associated with Purpose Statements B may also meet the intent of Purpose Statements D.</p>			
NYISO	<input checked="" type="checkbox"/>		See our coments under Q2.
<p>Response: The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's.</p>			
ERCOT	<input checked="" type="checkbox"/>		This would seem to be similar to the scenario described in my comments to Question # 3 above.
<p>Response: The SAR DT may seek further input from ERCOT on this subject.</p>			

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Question #4			
Commenter	Yes	No	Comment
Duke	<input checked="" type="checkbox"/>		Duke Energy supports the further development of a standard that would support timely transmission congestion relief. The volume of transactions cut under TLR and expected time for relief need to be considered in the practical implementation of the standard.
Response: The SAR DT will pass your comment on to the Standard Drafting Team.			
Energy Mark	<input checked="" type="checkbox"/>		The above statement is not clear, but I do support the premise that ACE can contribute to the need for TLR, and therefore, TLR procedures should include the recognition that ACE contributes to the problem and may need to be adjusted or limited when TLR is implemented.
Response: The SAR DT will pass your comment on to the Standard Drafting Team.			
Southern	<input checked="" type="checkbox"/>		Although theoretically possible, this situation appears to be very improbable. However, if it does occur there do not appear to be any standards in place to mitigate the situation. Any requirement to reduce excessive ACE following the curtailment of Interchange Transactions under TLR procedures should only be effective if that excessive ACE is contributing to an SOL/IROL violation.
Response: The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's.			
WECC RCCWG	<input checked="" type="checkbox"/>		There is some language that is Eastern Interconnection specific (transmission loading relief). Please confirm whether the timely congestion relief will impact all interconnections. Corrective load/generation change needs to be effective for the transmission loading relief required.
Response: It is intended that the requirement will apply to all Interconnections. The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures, which would apply to all BA's.			
Manitoba Hydro	<input checked="" type="checkbox"/>		
NiSource	<input checked="" type="checkbox"/>		
OPPD	<input checked="" type="checkbox"/>		
PSC SC	<input checked="" type="checkbox"/>		

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Question #4			
Commenter	Yes	No	Comment
Seattle City Light	<input checked="" type="checkbox"/>		
Entergy	<input checked="" type="checkbox"/>		
FirstEnergy	<input checked="" type="checkbox"/>		

5. Do you think that there is a reliability-related reason to address the directives in FERC Order 693 relative to the BAL standards?

Summary Consideration: The drafting team reviewed the FERC Order 693 and modified the SAR to clarify that the following directives are related to modifying standards currently envisioned within the scope of the work in this SAR.

- Add data retention requirements to all standards.
- Require a continent-wide contingency reserve policy.
- Modify BAL-003 – Frequency Response and Bias.
- Require minimum Regulating Reserves for a Balancing Authority.

Question #5			
Commenter	Yes	No	Comment
WECC RCCWG			Please specify which directives of FERC Order 693 are to be addressed.
Response: Please see Duke Energy's comment in this section. It clarifies the SAR DT's intent in dealing with FERC Order 693.			
ITC		<input checked="" type="checkbox"/>	FERC Order 693 should not be tied to "reliability-related" reasoning. I think the directives need to be addressed, but not under the guise of reliability.
Response: Please see Duke Energy's comment in this section. It clarifies the SAR DT's intent in dealing with FERC Order 693.			
Southern		<input checked="" type="checkbox"/>	
MISO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The FERC Order is a legal document document to which the ERO must respond. However, it should not be pre-ordained that every item is addressed. The industry should not blindly pursue directives that may be in error, poorly thought out or where there are superior alternatives. There are things of questionable value in the Order and perhaps demonstrate a misunderstanding or miscommunication on the part of the FERC.
Response: Please see Duke Energy's comment in this section. It clarifies the SAR DT's intent in dealing with FERC Order 693.			
Duke	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FERC directives, including those in Order No. 693, must be addressed by NERC. However, FERC noted that it did not mandate particular outcomes in Order 693, but expects the ERO to respond with equivalent, fully supported alternatives. This is consistent with FERC's statutory authority in Section 215 of the Federal Power Act which requires that FERC "...give due weight to the technical expertise of the Electric Reliability

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Question #5			
Commenter	Yes	No	Comment
			Organization with respect to the content of a proposed standard or modification to a reliability standard..."
Response: The SAR DT thanks the commenter for helping us phrase our response to all other commenters on this question.			
TAL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Many of the recommendations are administrative in nature, such as adding measures or requiring the addition of words to provide clarification. While some will enhance security of the BES, they are not needed to achieve the current level of reliability.</p> <p>The key ingredient is to follow the standards we have and get back to the idea of matching "resources and demand". If this had been done properly, the August 14, 2003 blackout would not have occurred.</p> <p>Do I think the directives need to be addressed? Absolutely. I would not like to be the one entity that would tell FERC "No"! They are in control now, but there still needs to be a benefit to the reliability of the BES for the changes made.</p>
Response: Please see Duke Energy's comment in this section. It clarifies the SAR DT's intent in dealing with FERC Order 693.			
BPA	<input checked="" type="checkbox"/>		We must always take into account FERC Orders.
Response: Please see Duke Energy's comment in this section. It clarifies the SAR DT's intent in dealing with FERC Order 693.			
Energy Mark	<input checked="" type="checkbox"/>		<p>Many of the directives in FERC Order 693 deserve to be answered in a clear and concise manner. Some of the directives have a solid reliability basis and should be implemented in some way in the standards. However, other directives indicate a lack of understanding by FERC about how current reliability standards are intended to support both reliability and market development. These later directives should have well supported position papers developed to educate FERC on the validity of those parts of the standards that should not be revised.</p>
Response: Please see Duke Energy's comment in this section. It clarifies the SAR DT's intent in dealing with FERC Order 693.			
FRCC	<input checked="" type="checkbox"/>		All FERC directives should be addressed within the Standards Process. In our opinion, in certifying NERC as the ERO, FERC is relying on the ERO to be responsive to its concerns. But its important to note that FERC has also expressed that an important facet of the

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Question #5			
Commenter	Yes	No	Comment
			ERO is its collective technical expertise at addressing reliability for the industry in an open and inclusive forum. There is an important distinction between addressing and incorporating directives.
Response: Please see Duke Energy's comment in this section. It clarifies the SAR DT's intent in dealing with FERC Order 693.			
NiSource	<input checked="" type="checkbox"/>		To the extent that the ERO identifies items that need addressed.
Response: Please see Duke Energy's comment in this section. It clarifies the SAR DT's intent in dealing with FERC Order 693.			
Seattle City Light	<input checked="" type="checkbox"/>		The blackstart directives are clear in the FERC order.
Response: Please see Duke Energy's comment in this section. It clarifies the SAR DT's intent in dealing with FERC Order 693.			
Entergy	<input checked="" type="checkbox"/>		
FirstEnergy	<input checked="" type="checkbox"/>		
IESO	<input checked="" type="checkbox"/>		
ISO-NE	<input checked="" type="checkbox"/>		
IRC IRC	<input checked="" type="checkbox"/>		
NYISO	<input checked="" type="checkbox"/>		
NPCC CP9 RSWG	<input checked="" type="checkbox"/>		
PSC SC	<input checked="" type="checkbox"/>		
HQT	<input checked="" type="checkbox"/>		
TVA	<input checked="" type="checkbox"/>		

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6. Do you agree with the scope of the SAR? If no, please identify topics you feel should be added or deleted, and provide an explanation for your recommendations.

Summary Consideration: The responses submitted by stakeholders indicate that while a majority of commenters do support the scope of the SAR there is no consensus on this issue. The drafting team did modify the scope in support of stakeholder comments on the statements in the purpose of the SAR.

Question #6			
Commenter	Yes	No	Comment
BPA		<input checked="" type="checkbox"/>	The current standards have proven to work over the course of time. There is a frequency component in CPS1 that has never been modified (Epsilon) even though that is allowed in the standard. If frequency is a serious concern, we should first look at using the tools in the current standards rather than creating a new one.
Response: Certain events in the Eastern Interconnection have indicated that a real-time standard may be needed to address events when the inability of a Balancing Authority to balance resources and demand becomes a reliability issue.			
FRCC		<input checked="" type="checkbox"/>	Scope is too broad and goes beyond the Balancing / Frequency concept that was initially proposed (in the failed ballot). Again trying to include every possible operating scenario and standardizing an operator response based on prevailing frequency will, in our opinion confuse and dilute existing reliability standards.
Response: The purpose of this SAR was broadened to include certain transmission related problems associated with the balancing of resources and demand by the Balancing Authority to address concerns primarily noted by the WECC, NPCC and the FRCC. Input received from the Balancing Authorities under the field test of the proposed BAL-007 has indicated that the proposed Balancing Authority ACE Limit provides a clear and understood bound to the operators and that the real-time impact of Balancing Authority operation on the Interconnection frequency is more closely monitored.			
TAL		<input checked="" type="checkbox"/>	There is no "scope" section SAR. I assume the "Purpose" is the same. What is "broke" with the current standards that we are trying to "fix"? See answers above for each specific purpose comments. Many of the items in the scope are already addressed in current standards. The push of this SAR appears to be to take another shot at passing the field tested BAAL standards so the larger entities with numerous generators can relax their control bands further and save money under the guise of "If frequency is okay, what does it matter?"
Response: The commenter is correct that the "scope" section is indeed the "purpose" section. Certain events in the Eastern Interconnection have indicated that a real-time standard may be needed to address events when the inability of a Balancing Authority to balance resources and demand becomes a reliability issue. Input received from the Balancing Authorities under			

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Question #6			
Commenter	Yes	No	Comment
<p>the field test of the proposed BAL-007 has indicated that the proposed Balancing Authority ACE Limit provides a clear and understood bound to the operators and that the real-time impact of Balancing Authority operation on the Interconnection frequency is more closely monitored. The intent of the first provision of this SAR was to carry forward all work from the proposed Balancing Resources and Demand Standard including the field test of BAL-007, as the majority of the balloters supported the concepts. Under the Standards Development Process, comments received from the industry on the proposed Reliability-based Control Standard(s) will drive any future changes to the Standard and the proposed measures, including those included from the previous draft Standard.</p> <p>Note that the SAR proposes consideration of requirements that may place limits on ACE.</p>			
Seattle City Light		<input checked="" type="checkbox"/>	<p>This SAR is a recompilation of a recently defeated effort of the same BAL standards with a few slight changes. The registered ballot body spoke to those standards and they were voted down by a substantial percentage. We should be utilizing our finite resources on more pressing standards. There is a large body of experienced balancing authorities who are not convinced that this effort will improve reliability and indeed will harm reliability and the vote shows this, we're not sure why this is being forced through the process again.</p>
<p>Response: The purpose of this SAR was broadened to go beyond the standards that were balloted and to also address certain transmission related problems associated with the balancing of resources and demand by the Balancing Authority, concerns primarily noted by the WECC, NPCC and the FRCC. Input received from the Balancing Authorities under the field test of the proposed BAL-007 has indicated that the proposed Balancing Authority ACE Limit provides a clear and understood bound to the operators and that the real-time impact of Balancing Authority operation on the Interconnection frequency is more closely monitored. The intent of the first provision of this SAR was to carry forward all work from the proposed Balancing Resources and Demand Standard including the field test of BAL-007, as the majority of the balloters supported the concepts. Under the Standards Development Process, comments received from the industry on the proposed Reliability-based Control Standard(s) will drive any future changes to the Standard and the proposed measures, including those included from the previous draft Standard.</p>			
TVA		<input checked="" type="checkbox"/>	<p>We feel congestion management should not be included, therefore we don't agree with the scope of the SAR. However, we believe the other areas should be addressed in the SAR.</p>
<p>Response: The purpose of this SAR was broadened to address certain transmission related problems associated with the balancing of resources and demand by the Balancing Authority, concerns primarily noted by the WECC, NPCC and the FRCC. The intent of the SAR is not to change the TLR process or address loop flow issues, but to determine what has to be achieved to indicate that a BA properly implemented a curtailment related to transmission loading relief.</p>			
IESO		<input checked="" type="checkbox"/>	<p>Please see our comments under Q2 and Q4.</p>
<p>Response: Thank you for your comments – please refer to our responses on those items.</p>			
IRC		<input checked="" type="checkbox"/>	<p>Please see our comments under Q2 and Q4.</p>

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Question #6			
Commenter	Yes	No	Comment
Response: Thank you for your comments – please refer to our responses on those items.			
ITC		<input checked="" type="checkbox"/>	If portions of the resulting Standards addressed by this SAR will be balloted separately, they should be identified up front and addressed by individual SARs.
Response: Comments have supported the requirements being developed together as their interaction needs to be considered. The industry comments will help guide the development of the resulting standards and whether any should be separately balloted.			
Energy Mark	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	I agree with the scope of this SAR when considered in conjunction with other SARs currently in progress. I expect that there will be interaction between this SAR, the Frequency Response SAR, and the other Balancing SARs currently under consideration. I will provide well supported detailed justification for those interactions when the specifics are considered as part of the Standards Development Process.
Response: The SAR DT agrees that the interaction between this proposed Standard and other Standards either in place or being developed need to be considered throughout the development.			
ISO-NE NPCC CP9 RSWG HQT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The transmission related solutions are too specific- they may be where it ends up, but, other solutions are possible and should be considered. Also, while not stated explicitly, as written the SAR seems to imply that the frequency model in the standard which was not approved would simply be carried forward. Subject matter experts have provided feedback on problem areas with the model, and it should not simply be carried forward. Instead, the standard development outcomes could be: (a) accepting the current model if it passes the appropriate sensitivity analyses for the previously stated concerns; (b) incrementally enhancing it by making empirical corrections for the previously stated concerns; or, (c) replacing it altogether with a more robust solution.
Response: The SAR DT has modified the SAR to address the concerns that the transmission related solutions are too specific. The intent of the first provision of this SAR was to carry forward all work from the proposed Balancing Resources and Demand Standard including the field test of BAL-007, as the majority of the balloters supported the concepts. We agree that under the Standards Development Process, comments received from the industry on the proposed Reliability-based Control Standard(s), will drive any future changes to the Standard and the proposed measures, including those included from the previous draft Standard.			
American Electric Power	<input checked="" type="checkbox"/>		Yes, the framework of the standards is in place, but standards and requirements need to address some gaps that don't provide the appropriate signals to all entities that contribute to these reliability concerns. However, we may kill the patient with the cure if we are not careful. We have been talking about many of these same issues for as long as Interchange has been happening.
Response: Thank you for your comment, it will be forwarded to the Standard Drafting Team.			
MISO	<input checked="" type="checkbox"/>		We agree with the general scope. The corrective load/generation management in

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Question #6			
Commenter	Yes	No	Comment
			<p>response to TLR schedule curtailments appears to be trying to fix something that has never been a problem. Even if it occurs, it probably is a violation of the TLR standard as the BA did not properly implement the curtailment. If something has to be done to deal with the supposed case where a BA could have an extremely large ACE with normal frequency, it would be preferable to put MW cap on BAAL (many times larger than L10 since response for all events is required, compared to 90% for CPS2). Regions could always ask for a smaller cap if there is a local issue.</p> <p>The team should not try to solve the loop-flow issue unless it is a requirement to upload all generation to load impacts to the IDC.</p>
<p>Response: The intent of this standard is to determine what has to be achieved to indicate that a BA did properly implement a curtailment related to transmission loading relief. We would agree that a MW cap on ACE might be an acceptable solution for addressing the condition you noted. The SAR DT modified Purpose Statement D of the SAR. The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. One method to ensure timely congestion relief could be to require specific ACE limits to be met within a defined timeframe in response to TLR. We are seeking to reach consensus on this issue.</p>			
NYISO	<input checked="" type="checkbox"/>		See our comments under Q2.
<p>Response: Thank you for your comments – please refer to our response on that item.</p>			
Duke	<input checked="" type="checkbox"/>		Duke Energy – The team should not try to solve the loop-flow issue.
<p>Response: Your comment is consistent with other comments received regarding loop-flow. This SAR will address a number of issues that have been identified by many on one or more of the interconnections including: 1) the relationship between ACE, SOL/IROL, and TLR, 2) Frequency Excursions occurring during ramping, and FERC Order 693 directives. While the SAR DT does not intend to directly address the topological issues related to loop flow, it is hoped that bounding large values of ACE will lessen the contribution of ACE to loop flow conditions.</p>			
Southern	<input checked="" type="checkbox"/>		The increased scope of the SAR compared to the Balance Resources and Demand SAR gives the drafting teams sufficient latitude to respond to industry concerns.
<p>Response: The SAR DT agrees and thanks you for your comment.</p>			
Entergy	<input checked="" type="checkbox"/>		
FirstEnergy	<input checked="" type="checkbox"/>		
Madison G&E	<input checked="" type="checkbox"/>		
Manitoba Hydro	<input checked="" type="checkbox"/>		

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Question #6			
Commenter	Yes	No	Comment
NiSource	<input checked="" type="checkbox"/>		
OPPD	<input checked="" type="checkbox"/>		
PSC SC	<input checked="" type="checkbox"/>		
Steel Manufacturers	<input checked="" type="checkbox"/>		
WECC RCCWG	<input checked="" type="checkbox"/>		

7. If you are aware of a Regional Variance that should be included in the scope of the SAR, please identify the variance below:

Summary Consideration: Stakeholders indicated that some proposed requirements may need to be interconnection-specific and the SAR supports this concept. Two Regions, FRCC and NPCC were also identified as needing possible regional variances. Research and field testing should help clarify the need for these variances and the scope of these variances. The drafting team acknowledges that the frequency model used to establish the proposed frequency-based limits should be reviewed and added this to the SAR.

Question #7	
Commenter	Comment
BPA	Frequency Trigger Limit calculations are inadequate for WECC. This is in the writeup of the SAR so will be addressed. Response: Review of the frequency model's limit setting process for all of the interconnections may be part of the research that may be performed under the development of the Standards if directed by the industry comments. Your comment will be passed along to the Standard Drafting Team.
Duke	The criteria for the selection of the targeted frequency bounds may need to be different in the WECC given that non-firm load shedding at a higher Interconnection frequency is also in place. Response: Review of the frequency model's limit setting process for all of the interconnections may be part of the investigation that may be performed under the development of the Standards if directed by the industry comments. Setting limits based on non-firm load shedding as currently managed by the market would be an area that the Standard Drafting Team may address with the industry. Your comment will be passed along to the Standard Drafting Team.
Energy Mark	Both ERCOT and Hydro Quebec are both single BA interconnections and require adjustments to the standards to recognize that fact. Response: Review of the frequency model's limit setting process for all of the interconnections may be part of the investigation that may be performed under the development of the Standards if directed by the industry comments. Your comment will be passed along to the Standard Drafting Team.
MISO	If this standard delves into loop flow, it should not conflict with RC joint operating agreements to manage flows on neighboring facilities. Response: The intent of this standard is to determine what has to be achieved to indicate that a BA did properly implement a curtailment related to transmission loading relief. The SAR DT will modify Purpose Statement D of the SAR. The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. One method to ensure timely congestion relief could be to require specific ACE limits to be met within a defined timeframe in response to TLR. We are seeking to reach consensus on this issue. We will pass this comment along to the Standard Drafting Team for them to consider RC Joint Operating Agreements in Standard development.

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Question #7	
Commenter	Comment
NPCC CP9 RSWG ISO-NE HQT	<p>For a single Balancing Area interconnection like Hydro-Québec Interconnection, BAAL-007-1 is not appropriate. Thus, Hydro-Québec TransÉnergie (HQT) should not be subjected to BAAL-007-1 requirements and so not be subject to compliance to that standards. BAAL-008 is the Standard that is more appropriate for HQT reliable operation.</p> <p>The other standards like BAAL-008 to BAAL-011 would be applicable to HQT. Although, the frequency range (e.g. FTL, etc.) in some of the Standards would probably need to be different for Hydro-Québec Interconnection due to its asynchronous characteristics. HQT would be willing to participate in field test to gather more analytical data to evaluate reliability.</p> <p>The SAR drafting team should specify if an Interconnection -wide Regional variance to that effect is necessary and if so, it should be included in the further developpement of these Standards. If there is another means to take into account these concerns, the SAR drafting team should indicate how.</p>
<p>Response: Review of the frequency model's limit setting process for all of the interconnections may be part of the investigation that may be performed under the development of the Standards if directed by the industry comments. Your comment will be passed along to the Standard Drafting Team.</p>	
Southern	FRCC and NPCC may need regional variances due to the peninsular nature of their networks.
<p>Response: The need for such variances may be addressed in the standard development process. You comment will be passed on the Standard Drafting Team.</p>	
TAL	<p>WECC — It appears that the discussion on page 5 of the SAR, that starts "As WECC may have other requirements, such as the prevention of under-frequency "non-firm" load shedding..." is being considered as a regional difference.</p> <p>FRCC — The FRCC region is a peninsula with ties to SERC via SOCO only. Our import limit is a specific limit that would always trump the BAAL standard because even if we were to drag to help frequency, we would be in jeopardy of violating our import limit. This would penalize FRCC members by having to support the new requiremetns without getting the claimed benefit of being able to drag, as long as you aren't hurting frequency.</p>
<p>Response: : Review of the frequency model's limit setting process for all of the interconnections may be part of the investigation that may be performed under the development of the Standards if directed by the industry comments. Your comment will be passed along to the Standard Drafting Team. The SAR Drafting Team may request more information regarding the FRCC portion of your comment.</p>	
WAPA	The WECC RCCWG recognizes that if there are frequency thresholds, those thresholds may be interconnection specific.

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Question #7	
Commenter	Comment
Response: Review of the frequency model's limit setting process for all of the interconnections may be part of the investigation that may be performed under the development of the Standards if directed by the industry comments.	
FRCC	None.
PSC SC	None.

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8. Are you aware of any Business Practice that should be developed to support the work described in this SAR? If yes, please identify what the Business Practice should address.

Summary Consideration: Stakeholders did identify several possible business practices that could be developed or refined to support the work described in this SAR. The SAR DT will inform NAESB of these suggestions.

Question #8			
Commenter	Yes	No	Comment
WAPA			On- and off-peak blocks of power need to be replaced by non-blocked products. There needs to be more flexibility within the hour for products to replace transactions curtailed for reliability purposes.
Response: The SAR Drafting Team agrees that different transmission and generation products could be viable solutions to addressing the impact of the on and off-peak products on the Interconnection frequency.			
ERCOT	<input checked="" type="checkbox"/>		See my comments to Question # 3 above. Perhaps coordination of the business practices by NAESB and the reliability requirements by NERC Standards would help to produce an improvement to reliable control.
Response: The SAR DT may seek further input from ERCOT on this subject.			
OPPD	<input checked="" type="checkbox"/>		Consider changing the default ramp rate for scheduled transactions from 10 minutes to 20 minutes or possibly longer for large schedules.
Response: The SAR DT agrees that this NAESB business practice (using 20 minute ramps) could be considered in the Eastern Interconnection as it is already followed in the WECC. As movement to a different business practice may have implications to NERC Standards, we will pass your comment along to the NERC RS and IS for their consideration and, perhaps, further discussion with NAESB.			
TAL	<input checked="" type="checkbox"/>		There should be a business practice of matching resources and demand, since it will apparently not be a part of this standard.
Response: The purpose of this SAR is to require corrective action within a defined period when the inability of a Balancing Authority to match resources and demand is impacting reliability.			
American Electric Power			Not at this time.
BPA		<input checked="" type="checkbox"/>	
Duke		<input checked="" type="checkbox"/>	
East Kentucky		<input checked="" type="checkbox"/>	
Energy Mark		<input checked="" type="checkbox"/>	
Entergy		<input checked="" type="checkbox"/>	

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Question #8			
Commenter	Yes	No	Comment
FirstEnergy		<input checked="" type="checkbox"/>	
FRCC		<input checked="" type="checkbox"/>	
IESO		<input checked="" type="checkbox"/>	
ISO-NE		<input checked="" type="checkbox"/>	
IRC		<input checked="" type="checkbox"/>	
ITC		<input checked="" type="checkbox"/>	
Madison G&E		<input checked="" type="checkbox"/>	
Manitoba Hydro		<input checked="" type="checkbox"/>	
MISO		<input checked="" type="checkbox"/>	
NYISO		<input checked="" type="checkbox"/>	
NiSource		<input checked="" type="checkbox"/>	
NPCC CP9 RSWG		<input checked="" type="checkbox"/>	
PSC SC			None.
Seattle City Light		<input checked="" type="checkbox"/>	
Southern		<input checked="" type="checkbox"/>	
Steel Manufacturers			No comment.
HQT		<input checked="" type="checkbox"/>	
TVA		<input checked="" type="checkbox"/>	

9. Do you agree with the applicability section of this SAR?

Summary Consideration: Most commenters who responded to this question indicated that they do agree with the applicability section of this SAR.

Question #9			
Commenter	Yes	No	Comment
WAPA		<input checked="" type="checkbox"/>	We believe that the TOP may need to be added to the applicability section for those requirements that would deal with curtailments.
Response: It is envisioned that the TOP in meeting its standards can call upon BAs to meet this proposed standard as one of their procedures to solve the operating issue.			
Entergy		<input checked="" type="checkbox"/>	Based on the proposed issues to be addressed, it would appear that Transmission Operators may be an applicable entity.
Response: It is envisioned that the TOP in meeting its standards can call upon BAs to meet this proposed standard as one of their procedures to solve the operating issue.			
FRCC		<input checked="" type="checkbox"/>	The scope is too broad to answer this question appropriately.
Response: The SAR DT has revised the "Purpose" section of the SAR to clarify the intent. This should allow the commenter to determine the appropriateness of the applicability section.			
Energy Mark	<input checked="" type="checkbox"/>		
Duke	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	We are not confident that the resulting Standard(s) will apply to Generator Operators and PSEs.
Response: The SAR DT believes that this is a Balancing Authority standard. It is then up to the BA to pass the requirement down to the resource operator or PSE			
ISO-NE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Please refer to Q7.
Response: Please see the response to comments on Q7.			
NPCC CP9 RSWG	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Please refer to Q7.
Response: Please see the response to comments on Q7.			
HQT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Please refer to Q7.
Response: Please see the response to comments on Q7.			
TAL	<input checked="" type="checkbox"/>		One of the items discussed in the SAR is the frequency problems occurring during the on-to-off peak hour interchange schedules. A SAR potentially dealing with this aspect should indicate that it is applicable to the Interchange Coordinator and the Market Operator. Additionally, the determination of SOL/IROL, and the removing of them, will directly

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Question #9			
Commenter	Yes	No	Comment
			effect the Transmission Operator, which is not checked as an affected party.
<p>Response: The SAR DT believes that this is a Balancing Authority standard. It is then up to the BA to pass the requirement down to the interchange coordinator or market operator. It is envisioned that the RC, in meeting its standards, will interact with the TOP and can call upon BAs to meet this proposed standard as one of their procedures to solve the operating issue.</p>			
BPA	<input checked="" type="checkbox"/>		
FirstEnergy	<input checked="" type="checkbox"/>		
IESO	<input checked="" type="checkbox"/>		
IRC	<input checked="" type="checkbox"/>		
ITC	<input checked="" type="checkbox"/>		
Madison G&E	<input checked="" type="checkbox"/>		
Manitoba Hydro	<input checked="" type="checkbox"/>		
MISO	<input checked="" type="checkbox"/>		
NYISO	<input checked="" type="checkbox"/>		
NiSource	<input checked="" type="checkbox"/>		
PSC SC	<input checked="" type="checkbox"/>		
Seattle City Light	<input checked="" type="checkbox"/>		
Southern	<input checked="" type="checkbox"/>		
TVA	<input checked="" type="checkbox"/>		

10.If there are any other comments you wish to provide the SAR drafting team that you have not already provided in response to the questions above, please provide them here.

Question #10	
Commenter	Comment
BPA	A field trial is not useful with a handful of participants. If the industry is determined to carry forward with this SAR and subsequent standard drafting, the field trial must be mandatory rather than voluntary. It would also be more appropriate to call this frequency-based control rather than reliability based control since that is the basis behind the SAR.
	<p>Response: Thank you for your comment. This SAR will address a number of issues that have been identified by many from one or more of the interconnections including: 1) the relationship between ACE, SOL/IROL, and TLR, 2) Frequency Excursions occurring during ramping, and FERC Order 693 directives as related to balancing ACE. Due to the added issues we feel it is appropriate to continue with the reliability based Control title.</p> <p>The SAR DT believes that the field trial is useful even without full participation in the Eastern Interconnection and is recruiting additional BAs with characteristics different from those already participating to join the field trial. The SAR DT supports and encourages full participation in all Interconnections during the field trial but does not have the authority to mandate participation in the field test</p>
MISO	It is important for a large proportion of BAs to participate in any field trial of this standard, either directly or through the provision of data. If there is any directive to cease the field test, the reasons and circumstances should be documented. There should be a summary report of any reliability issues identified.
	<p>Response: Thank you for your comment. The SAR DT will pass your comments on to the Standard Drafting Team and those overseeing the field trial. Note that at this time, there is not a process in place to require participation in a field trial.</p>
Duke	<p>We believe that the focus of the drafting team should be on the new areas added to address the transmission-related concerns that have been noted and the short-term frequency excursions. The standards developed must not put the Balancing Authority, or the Reliability Coordinator, in the position where compliance with one standard could result in non-compliance with another, it is for that reason that we support the drafting of the standards fall under one team.</p> <p>Under all circumstances that we have considered, balancing ACE to zero should always move the Balancing Authority into compliance under any of the proposed standards. This concept needs to be discussed further: can a Reliability Coordinator direct the Balancing Authority to "push" or "drag", or is it limited to directing correction action to not operate in a certain manner where balancing to zero ACE is an acceptable solution?</p>

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Question #10	
Commenter	Comment
	<p>As the Reliability Coordinator has the authority under the field test to direct a Balancing Authority to cease operating under the field test for a period, we believe such direction should be reviewed after-the-fact with the Reliability Coordinator to understand the circumstances leading up to the RC directive being given and the criteria followed for determining when to allow the BA to begin operating under the field test again. We believe that it is important that the entities that voted against the BRD standard consider participating in the field test and SAR/Standard drafting to help drive the industry to an acceptable solution.</p>
	<p>Response: Thank you for your comment. The SAR DT will pass your comments on to the Standard Drafting Team. The SAR DT supports and encourages full participation in all Interconnections during the field trial but does not have the authority to mandate participation in the field test.</p>
FRCC	<p>Trying to address interchange practices in order to clarify the perception of frequency related of events with respect to the BAAL field test seems inappropriate. Entities are required to address schedule ramping capability and if balance can't be maintained, entities RESPONSIBLE for BALANCING should try longer ramp times or increasing ramping capability.</p> <p>We appreciate the previous DT efforts at addressing FRCC concerns in the previous standard developed, especially with regard to maintaining DCS through the proposed implementation of BAAL.</p> <p>Going forward we would suggest that the drafting team address an underlying issue that may have caused some ballot members to vote against the standard. Other than unintended transmission flows (which are addressed within existing standard requirements), it appears there is a perception of lack of equity on the part of smaller Balancing entities that needs to be addressed. Either a technical solution with regard to setting limits or additional field work and demonstration may be needed to make these standards the "right" reliability solution for the majority of the ballot pool.</p>
	<p>Response: Thank you for your comments. This SAR will address a number of issues that have been identified by many on one or more of the interconnections including: 1) the relationship between ACE, SOL/IROL, and TLR, 2) Frequency Excursions occurring during ramping, and FERC Order 693 directives as related to balancing ACE. The SAR DT will pass your comments on to the Standard Drafting Team. Note that the drafting team is trying to encourage small Balancing Authorities to participate in the field test so that their performance can be studied and the results can be used to determine if any of the requirements need adjustment for small Balancing Authorities.</p>
ISO-NE NPCC CP9 RSWG	<p>While not stated explicitly, as written the SAR seems to imply that the frequency model in the standard which was not approved would simply be carried forward. Subject matter experts have</p>

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HQT	<p>provided feedback on problem areas with the model, and it should not simply be carried forward. Instead, the standard development outcomes could be: (a) accepting the current model if it passes the appropriate sensitivity analyses for the previously stated concerns; (b) incrementally enhancing it by making empirical corrections for the previously stated concerns; or, (c) replacing it altogether with a more robust solution.</p> <p>While not actually part of the new SAR itself, the Standards Committee has approved the continuation of the field trial for the Eastern Interconnection until the new standard is approved. This seems very inappropriate. The industry by its own approved process has not approved the standard for (real or perceived or unanswered) reliability concerns. This action negates the process. The field trial should be continued with re-approval of the Operating Committee on a semi-annual basis after a comprehensive performance analysis has been reviewed by the Operating Committee. The only purpose that continuation of the field trial should serve is to gather more analytical data to evaluate reliability. Again note that adverse trends may take time to develop. For example, after the industry made the transition from A1 and A2 to CPS 1 and CPS 2, the historic epsilon 1 value of 10.6 mHz was virtually unchanged for the first two years. But several years later epsilon1 approached 15 mHz after many Balancing Areas detuned their systems. The overall interconnection performance may eventually become undesirable if many Balancing Areas significantly detune their systems to respect BAAL limits instead of CPS 2.</p> <p>Since generation/load imbalances can simultaneously impact both frequency and transmission, the standard should address both together and not piecemeal them with separate balloting and approval. Given the interdependencies of reliable operations, continued reliability may be jeopardized by modifying existing reliability standards in a piecemeal fashion.</p> <p>The reliability based Balancing Standard needs to be coordinated with other standards so that longer-term aggregate performance measures such as time error, inadvertent, and long -term integrated ACE are bound within reasonable limits. The previous Balancing Standard that was not approved, lacking CPS 2 bounds, did not limit ACE sufficiently through CPS 1 and BAAL limits when the DCS was not applicable.</p>
<p>Response: Thank you for your comments. This SAR will address a number of issues that have been identified by many on one or more of the interconnections including: 1) the relationship between ACE, SOL/IROL, and TLR, 2) Frequency Excursions occurring during ramping, and FERC Order 693 directives. Review of the frequency model's limit setting process for all of the interconnections may be part of the investigation that may be performed under the development of the Standards if directed by the industry comments. Your comments will be passed along to the Standard Drafting Team. Note that the Operating Committee does not have the authority to approve field tests of reliability standards. The Standards</p>	

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	<p>Committee has the authority to approve field tests.</p> <p>It may be possible to ballot some of the standards individually – for example the proposed BAL-007 is a replacement for the CPS2 and could be balloted separately from the other proposed BAL standards. Similarly, BAL-010 is a replacement for the Frequency Bias standard and it could be balloted separately from other proposed BAL standards. The final determination of how the standards will be balloted will be made by the Standards Committee.</p> <p>The scope of the SAR does include consideration of a limit on ACE under certain conditions.</p>
OPPD	<p>Being a relatively small steam-based system, it is extremely challenging to comply with the BAAL limits during large schedule changes. Steam units simply do not respond very quickly, and they have a relatively small regulating range, primarily due to emissions requirements. Ten-minute ramp rates are unmanageable for large schedule changes which usually occur during the transitions between off-peak and on-peak periods. The proliferation of wind generation adds a new challenge, with wind being erratic and unpredictable. However, our biggest challenge is responding to TLR events. We often get schedule changes of 300 MWS or higher due to TLR events. These changes come with little or no notice, and oftentimes, the curtailed transactions will get "reloaded" the next hour. We have also seen TLR events cycle in and out - first a 300 MW cut, then everything gets reloaded, only to be cut again. It is not reasonable to expect BAs to meet the BAAL limits when TLR events are slamming extremely large schedule changes back and forth. We need to either figure out a better way to manage TLR events, or have some provision to exclude these time periods when determining compliance with the BAAL limits. We also need to change the default ramp rate from 10 minutes to at least 20 minutes.</p> <p>For OPPD to comply with the BAAL Standard, we would have to start and stop combustion turbines very frequently (several times a day), we would have to significantly reduce off-system sales (which accounts for a very significant part of our revenue), and we would have to negotiate longer ramp periods for large schedule changes. Some of these measures would be very costly, and may not have that much impact on grid reliability.</p>
	<p>Response: Thank you for your comments. This SAR will address a number of issues that have been identified by many on one or more of the interconnections including: 1) the relationship between ACE, SOL/IROL, and TLR, 2) Frequency Excursions occurring during ramping, and FERC Order 693 directives. The SAR DT believes that ramp compliance is a Balancing Authority issue that each would address internally with its resource operators. The SAR DT agrees that this NAESB business practice (using 20 minute ramps) could be considered in the Eastern Interconnection as it is already followed in the WECC. As movement to a different business practice may have implications to NERC Standards, we will pass your comment along to the NERC RS and IS for their consideration and, perhaps, further discussion with NAESB. The questions raised with respect to</p>

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	<p>TLR will be further investigated in the Standards Development Process.</p> <p>The SAR DT modified Purpose Statement D of the SAR. The intent of the statement is: To support timely transmission congestion relief by requiring corrective load/generation management by the Balancing Authority(ies) within a defined timeframe when participating in transmission loading relief procedures which would apply to all BA's. One method to ensure timely congestion relief could be to require specific ACE limits to be met within a defined timeframe in response to TLR.</p> <p>The SAR DT will pass your comments along to the Standard Drafting Team for their consideration. We encourage you to volunteer to participate in the field test so that the drafting team can collect data on the impacts to small Balancing Authorities.</p>
Southern	<p>Development of this SAR and the related standards is critical to the industry. It is, however, only one part of the picture and can not truly control frequency without the Frequency Response SAR that is being developed independently. It may be good to combine or at least link these two efforts into a coordinated whole. It also seems unrealistic to operate within pre-defined frequency limits for all abnormal system conditions. For example, it may be extremely difficult to accurately simulate in advance a widespread weather-based disruption of service, such as might be caused by a flood, hurricane, tornado, etc.</p>
	<p>Response: Thank you for your comment. The SAR DT will pass your comments on to the Standard Drafting Team. Note that when the Standards Committee appointed the Frequency Response SDT, they made a deliberate attempt to have some members of the Reliability-based Control SAR DT also serve on the Frequency Response SDT to support the coordination you've highlighted.</p>
TAL	<p>CPS1 and CPS2 are not the only standards that govern the reliability of the BES. Yes, it is possible to be compliant and still "hurt frequency". If a unit (or transaction) is lost, replace the MW or reduce load! The standards already prohibit leaning on the ties for an extended period. The standards already have provisions to force an entity to take action if they are contributing to an SOL/IROL.</p> <p>Frequency is not the cure all that the previous tries to pass the "new" BAAL standards would have us believe. The benefit of "aiding frequency recovery" (slowing it down) is not enough of a benefit to allow this unequitable solution to progress. If resources do not match demand something has to change. Waiting for frequency to go low before doing something about it is not the answer.</p> <p>Perhaps the change should be to tighten the DCS standard only. 80% of your largest unit is a big chunk and will effect frequency. IF this is dropped to a MUCH lower percent or a "common size", i.e. 100MW, you would see entities reposnding faster to unit losses and getting back to the resource/load</p>

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	<p>balance faster and having less impact on system frequency. This also would provide more "meaningful" data for analysis of reserve use and availability.</p> <p>This SAR takes work from defeated standards (BAL-007 through BAL-011) and is trying to redirect the journey to get to the same result, approving BAL-007 through BAL-011.</p>
	<p>Response: Thank you for your comments. This SAR will address a number of issues that have been identified by many on one or more of the interconnections including: 1) the relationship between ACE, SOL/IROL, and TLR, 2) Frequency Excursions occurring during ramping, and FERC Order 693 directives. The FERC directives alone are sufficient justification for moving forward with this SAR. The team will pass along the suggestions of reviewing the threshold for DCS reporting to the drafting team working on revisions to the DCS standard (Project 2007-05 — Balancing Authority Controls).</p>
TVA	<p>How about the drafting team considering a proposed limit within the BAAL limits that would be imposed during SOL/IROL events. This would maybe address concerns in regards to the BA's ACE contributing to flow problems.</p>
	<p>Response: Thank you for your comments. The SAR DT agrees that this may be a good approach to addressing the transmission loading issues and will pass along this suggestion to the Standard Drafting Team for their consideration.</p>
East Kentucky	<p>EKPC believes that frequency-related instability is important to address in a standard such as this. The work proposed by BAL-007 - BAL-011 addresses this issue directly instead of letting CPS2 address the issue indirectly.</p>
	<p>Response: The SAR DT thanks the commenter for your input.</p>
Manitoba Hydro	<p>Manitoba Hydro was part of the BAAL field test and and was comfortable operating to BAL-007. Manitoba Hydro contributed to frequency regulation, minimized CPM2 violations and our inadvertant account has not been negatively impacted.</p>
	<p>Response: The SAR DT thanks the commenter for your input.</p>
NiSource	<p>NIPSCO is an original participant in the BAAL field trials and continues to operate under the trials. NIPSCO supports the continued development of the proposed "Balance Resoures and Demand Standards BAL-007 through BAL-011."</p>
	<p>Response: The SAR DT thanks the commenter for your input.</p>
WAPA	<p>The WECC RCCWG would like the SAR drafting team to consider instituting a formal NERC definition of a Reliability Coordinator Directive, and differentiate that directive from a Transmission Operator Directive. We believe the definition should state what an RD Directive is, who it can be issued by, and how it differs from a Transmission Operator (or Balancing Authority) directive. The group would like to assert that specific language should be used for a Reliability Coordinator, such as "This is a Reliability Coordinator Directive,..." to differentiate and clarify that the directive issued is from a Reliability Coordinator.</p>

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	Response: There is a separate drafting team working on Operating Communications Protocols (Project 2007-02). We will pass your comments on to the Standards Drafting Team for Operating Communications Protocols and suggest you monitor the work of that drafting team and provide suggestions for use of specific protocols for inclusion in the proposed standard.
IRC	None.
NYISO	None.
IESO	None.
PSC SC	None.