

Comment Report

Project Name: 2017-01 Modifications to BAL-003-1.1 | Standards Authorization Request
Comment Period Start Date: 11/2/2017
Comment Period End Date: 12/1/2017
Associated Ballots:

There were 42 sets of responses, including comments from approximately 115 different people from approximately 75 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

- 1. The SAR proposes to modify the current BAL-003-1.1 standard to reflect the correct applicable entity that controls and provides frequency response, to reflect comparability among the applicable entities, and to eliminate arbitrary allocation of responsibility. Do you agree with this proposed revision? If not, please provide specific language on the proposed revision.**
- 2. The SAR proposes to modify the current BAL-003-1.1 standard to allow for real-time measurement of frequency performance instead of a two year old allocation. Do you agree with this proposed revision? If not, please provide specific language on the proposed revision.**
- 3. The SAR proposes to modify the current BAL-003-1.1 standard to eliminate the incorrect signals to the market for arbitrary pricing and conditions. Do you agree with this proposed revision? If not, please provide specific language on the proposed revision.**
- 4. Based on the scope of the Phase II section of the SAR, do you have any other comments for drafting team consideration?**

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
PJM Interconnection, L.L.C.	Albert DiCaprio	2	RF,SERC	ISO Standards Review Committee	Charles Yeung	SPP	2	SPP RE
					Ben Li	IESO	2	NPCC
					Mark Holman	PJM	2	RF
					Kathleen Goodman	ISONE	2	NPCC
					Greg Campoli	NYISO	2	NPCC
					Terry Bilke	MISO	2	RF
ACES Power Marketing	Brian Van Gheem	6	NA - Not Applicable	ACES Standards Collaborators	Greg Froehling	Rayburn Country Electric Cooperative, Inc.	3	SPP RE
					Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	RF
					Shari Heino	Brazos Electric Power Cooperative, Inc.	1,5	Texas RE
					Ginger Mercier	Prairie Power, Inc.	1,3	SERC
					Mike Brytowski	Great River Energy	1,3,5,6	MRO
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					Mark Ringhausen	Old Dominion Electric Cooperative	4	SERC
					Mark Ringhausen	Old Dominion Electric Cooperative	3,4	SERC
					Ryan Strom	Buckeye Power, Inc.	5	RF
					Ryan Strom	Buckeye Power, Inc.	4	RF
					Patrick Woods	East Kentucky	1,3	SERC

						Power Cooperative		
Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hills	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
Seattle City Light	Ginette Lacasse	1,3,4,5,6	WECC	Seattle City Light Ballot Body	Pawel Krupa	Seattle City Light	1	WECC
					Hao Li	Seattle City Light	4	WECC
					Bud (Charles) Freeman	Seattle City Light	6	WECC
					Mike Haynes	Seattle City Light	5	WECC
					Michael Watkins	Seattle City Light	1,4	WECC
					Faz Kasraie	Seattle City Light	5	WECC
					John Clark	Seattle City Light	6	WECC
					Tuan Tran	Seattle City Light	3	WECC
					Laurie Hammack	Seattle City Light	3	WECC
Public Utility District No. 1 of Chelan County	Janis Weddle	1,3,5,6		Chelan PUD	Haley Sousa	Public Utility District No. 1 of Chelan County	5	WECC
					Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
					Jeff Kimbell	Public Utility District No. 1 of Chelan County	1	WECC
					Janis Weddle	Public Utility District No. 1 of Chelan County	6	WECC
Consumers Energy Company	Jeanne Kurzynowski	1,3,4,5	RF	Consumers Energy Company	Jeanne Kurzynowski	Consumers Energy Company	1,3,4,5	RF

					Jim Anderson	Consumers Energy Company	1	RF
					Karl Blaszkowski	Consumers Energy Company	3	RF
					Theresa Martinez	Consumers Energy Company	4	RF
					David Greyerbiehl	Consumers Energy Company	5	RF
Southern Company - Southern Company Services, Inc.	Marsha Morgan	1,3,5,6	SERC	Southern Company	Katherine Prewitt	Southern Company Services, Inc	1	SERC
					Jennifer Sykes	Southern Company Generation and Energy Marketing	6	SERC
					R Scott Moore	Alabama Power Company	3	SERC
					William Shultz	Southern Company Generation	5	SERC
Manitoba Hydro	Mike Smith	1,3,5,6		Manitoba Hydro	Yuguang Xiao	Manitoba Hydro	5	MRO
					Karim Abdel-Hadi	Manitoba Hydro	3	MRO
					Blair Mukanik	Manitoba Hydro	6	MRO
					Mike Smith	Manitoba Hydro	1	MRO
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no Dominion NextERA Con-Ed ISO-NE	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Wayne Sipperly	New York Power Authority	4	NPCC
					Glen Smith	Entergy Services	4	NPCC

					Brian Robinson	Utility Services	5	NPCC
					Bruce Metruck	New York Power Authority	6	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					Edward Bedder	Orange & Rockland Utilities	1	NPCC
					David Burke	Orange & Rockland Utilities	3	NPCC
					Michele Tondalo	UI	1	NPCC
					Laura Mcleod	NB Power	1	NPCC
					David Ramkalawan	Ontario Power Generation Inc.	5	NPCC
					Quintin Lee	Eversource Energy	1	NPCC
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
					Helen Lainis	IESO	2	NPCC
					Michael Schiavone	National Grid	1	NPCC
					Michael Jones	National Grid	3	NPCC
					Greg Campoli	NYISO	2	NPCC
					Sylvain Clermont	Hydro Quebec	1	NPCC
					Chantal Mazza	Hydro Quebec	2	NPCC
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool Inc.	2	SPP RE
					Brent Hebert	Northeast Texas Electric Cooperative - HCCP	5	SPP RE
					Louis Guidry	Cleco Corporation	1,3,5,6	SPP RE
					Robert Hirchak	Cleco Corporation	6	SPP RE

PPL - Louisville Gas and Electric Co.	Shelby Wade	2,5,6	RF,SERC	Louisville Gas and Electric Company and Kentucky Utilities Company	Charles Freibert	PPL - Louisville Gas and Electric Co.	3	SERC
					Dan Wilson	PPL - Louisville Gas and Electric Co.	5	SERC
					Linn Oelker	PPL - Louisville Gas and Electric Co.	6	SERC

1. The SAR proposes to modify the current BAL-003-1.1 standard to reflect the correct applicable entity that controls and provides frequency response, to reflect comparability among the applicable entities, and to eliminate arbitrary allocation of responsibility. Do you agree with this proposed revision? If not, please provide specific language on the proposed revision.

Thomas Foltz - AEP - 3,5

Answer No

Document Name

Comment

AEP does not believe that BAL-003 -1.1 requires the BA to be directly responsible for providing primary frequency response. Rather, it sets the expectations for the performance of the BA in recovering from a frequency event with secondary frequency response through AGC. In our opinion, the allocation of responsibility is not arbitrarily assigned to the BA, but rather correctly assigned to the BA. Having said that, it seems the standard's Purpose statement is somewhat out of step with the requirements themselves and perhaps should be revised to better align with those requirements.

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

The apparent implication is that GOPs have responsibility for primary frequency response (PFR). Even for PFR, coordination of frequency response capability lies with BAs or collections of BAs, not with individual resources. For example, a BA may have ample frequency responsive resources available, but if it chooses not to have enough of them online with adequate headroom, frequency response will not be adequate. A standard to require resources to have frequency responsive capability may have merit, but combining that with the responsibilities of BAs may very likely lead to unneeded confusion. The background document cites ERCOT's BAL-001-TRE-1 as a model, but it is a separate standard, not a replacement for BAL-003.

Regarding comparability and allocation, we do not agree that the difference in resource mix or the amount of native BA load warrant a difference in treatment. The mechanism currently employed parallels the basis for NERC and RE funding allocation and has essentially the same time lag.

Likes 0

Dislikes 0

Response

Michelle Amarantos - APS - Arizona Public Service Co. - 1,3,5,6

Answer	No
Document Name	
Comment	
AZPS can support exploring whether additional functional entities should be addressed in the applicability section of the standard and/or with targeted requirements. However, AZPS cautions against creating redundant requirements in these reliability standards as FERC is currently proposing changes in the Open Access Transmission Tariffs. Finally, AZPS cannot outright support a need for a revision without evidence of a study or evaluation of the need to add additional applicable entities and without indication regarding the entities to which any associated revision would be directed.	
Likes 0	
Dislikes 0	
Response	
Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	No
Document Name	
Comment	
We do agree with the concept of properly allocating responsibility. The phased approach needs to be two distinctive processes. We should not delay the correction proposed in phase I to incorporate any proposed modifications that are noted in phase II. This SAR needs to address only the changes required after modifications of Phase I are complete.	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	No
Document Name	
Comment	
The IESO believes that the Balancing Authority is the appropriate entity responsible for assuring that its ACE performance is compliant with the current BAL performance requirements.	
Likes 0	
Dislikes 0	
Response	

Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF

Answer No

Document Name

Comment

PJM supports the exploration of a capability requirement for GOPs to provide primary frequency response. However, PJM sees this as supplemental, not a replacement of the BA requirement.

PJM does not believe it is appropriate to reflect comparability among applicable entities. A BAs load response, or mix and type of generation should not play a role in the primary frequency response allocation

Likes 0

Dislikes 0

Response

Albert DiCaprio - PJM Interconnection, L.L.C. - 2 - SERC,RF, Group Name ISO Standards Review Committee

Answer No

Document Name

Comment

The SRC supports the position that the Balancing Authority is the correct responsible entity for assuring that its ACE performance is compliant with the current BAL performance requirements.

Likes 0

Dislikes 0

Response

Shelby Wade - PPL - Louisville Gas and Electric Co. - 2,5,6 - SERC, Group Name Louisville Gas and Electric Company and Kentucky Utilities Company

Answer No

Document Name

Comment

Frequency Response (FR) is a function of both generating resources and load characteristics – both fall under the purview of the BA. A BA can set performance requirements for resources within its balancing authority area (BAA), which includes governor/inverter settings. Similar to reactive/voltage requirements, a GO/GOP must meet FR performance criteria set by the BA/TO/TOP.

FR is maintained by BA coordination of all assets within the BAA. The proposal to modify the functional entity applicability for BAL-003-1.1 to add the GO/GOP does not give any additional assurance of FR related interconnection reliability as an individual resource may or may not have the ability to respond as intended for a specific frequency event; however, the proposed modification will significantly increase the operating, economic and

administrative burdens on the GO/GOP. The perceived improvement in FR related reliability intended by broadening the applicability of the standard does not justify the added burdens that would be placed on all GO/GOPs.

Likes 0

Dislikes 0

Response

Janis Weddle - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name Chelan PUD

Answer No

Document Name

Comment

For Chelan PUD, as a BAA that owns and operates all of the generation within the BAA, the current standard is sufficient.

Likes 0

Dislikes 0

Response

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer No

Document Name

Comment

The SAR proposes to modify the standard to a single entity that has the “ability to” provide and control Frequency Response. We caution that an entity providing Frequency Response may not be the same entity that controls Frequency Response. We also believe some accountability should still exist with the Frequency Response Sharing Group or seclusive Balancing Authority to monitor Frequency Response sufficiency for their respective area.

Likes 0

Dislikes 0

Response

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6

Answer No

Document Name

Comment

Tacoma Power believes that although Balancing Authorities do not inherently have frequency responsive capabilities, these capabilities can be acquired via contractual agreements and market products. FERC should consider providing direction as to who should be compensating BAs for acquiring frequency response products necessary to meet this standard.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no Dominion NextERA Con-Ed ISO-NE

Answer

No

Document Name

Comment

NPCC believes that the Balancing Authority is the appropriate entity responsible for assuring that its ACE performance is compliant with the current BAL performance requirements.

Likes 0

Dislikes 0

Response

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Answer

No

Document Name

Comment

Tri-State believes this revision is not necessary due to the obligations already existing in TOP-001-3. As required by TOP-001-3 Requirement R5, a Generator Operator must comply with each Operating Instruction issued by its Balancing Authority. This would already include providing frequency response when asked to. Therefore, Tri-State believes it is incorrect to state that there is no mechanism available to Balancing Authorities to compel generators to provide frequency response during an event.

Likes 0

Dislikes 0

Response

Neil Swearingen - Salt River Project - 1,3,5,6 - WECC

Answer

No

Document Name

Comment

SRP believes the responsibility is appropriately allocated to the Balancing Authority.

Likes 0

Dislikes 0

Response

Casey Johnston - Concerned Electrical Engineer with 40 yrs in Electrical Industry - NA - Not Applicable - NA - Not Applicable

Answer

Yes

Document Name

Comment

The majority of frequency response is provided by rotating masses, such as generators with synchronized torque and motors connected to the interconnection. There is compelling evidence and testimony from multiple sources—BAs, transmission operators, and NERC reports—to show that many synchronous generators, the primary source of primary frequency response, are not providing the expected proportional response to frequency excursions.

This standard, BAL-003, should apply to NERC registered GO/GOPs as responsible entities.

Likes 0

Dislikes 0

Response

Dori Quam - NorthWestern Energy - 1 - WECC

Answer

Yes

Document Name

Comment

The majority of frequency response is provided by rotating masses, such as generators with synchronized torque and motors connected to the interconnection. There is compelling evidence and testimony from multiple sources—BAs, transmission operators, and NERC reports—to show that many synchronous generators, the primary source of primary frequency response, are not providing the expected proportional response to frequency excursions. Currently, there is no “mechanism” available to the BAs to compel Generator Owners or Generator Operators to have their facilities provide the necessary primary frequency response during an event. BAL-003 must be revised to address this shortcoming. This standard, BAL-003, should apply to NERC registered GO/GOPs as responsible entities.

Likes 0

Dislikes 0

Response	
Theresa Rakowsky - Puget Sound Energy, Inc. - 1,3,5	
Answer	Yes
Document Name	
Comment	
Puget Sound Energy (PSE) fully supports the SAR for Project 2017-01 and the proposed revisions. To address reliability, BAL-003-1.1 should be modified to impose requirements on individual generating facilities and not burden Balancing Authorities with the cost of procuring frequency response in the marketplace.	
Likes	0
Dislikes	0

Response	
Antonio Franco - Gridforce Energy Management, LLC - NA - Not Applicable - WECC	
Answer	Yes
Document Name	
Comment	
Gridforce Energy Management agrees and supports the SAR. Not all Balancing Authorities own an asset to contribute with primary frequency response, which in the Western Interconnection is generally a synchronous generator governor.	
Likes	0
Dislikes	0

Response	
James Ramos - Turlock Irrigation District - 1,3,4,5,6	
Answer	Yes
Document Name	
Comment	
Frequency response is mostly provided by motors and generators synchronized to the interconnection. There is compelling evidence and testimony from multiple sources—BAs, transmission operators, and NERC reports—to show that many synchronous generators, the primary source of primary frequency response, are not providing the expected proportional response to frequency excursions. Generator Owners (GOs) or Generator Operators (GOPs) should be required to have their facilities provide the necessary primary frequency response during an event. BAL-003 applicable to GOs and GOPs.	

Likes 0

Dislikes 0

Response

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer

Yes

Document Name

Comment

The majority of frequency response is provided by generators, but yet, the current BAL-003-1.1 applicability section requires Balancing Authorities to comply with the standard. This standard does not provide any mechanism to compel Generator Owners or Generator Operators to provide the necessary primary frequency response during an event. In addition, the Balancing Authorities do not have authority to force the Generator Owners or Generator Operators to respond correctly in the case of an event.

Likes 0

Dislikes 0

Response

Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer

Yes

Document Name

2017-BAL003 SAR Unofficial_Comment_Form_NWPP_Nov2017_Grant PUD.docx

Comment

Different types of generation and load have different abilities to provide frequency response, and the BA in which the generation or load is located is not necessarily the owner of the generation or load. The standard should recognize the fact that the BA may not be the owner and also allow for generators and load that do supply frequency response to be appropriately compensated for this service.

Likes 0

Dislikes 0

Response

Andrew Gallo - Austin Energy - 1,3,4,5,6

Answer

Yes

Document Name

Comment

Austin Energy (AE) agrees with the revision to eliminate arbitrary allocation of responsibility. However, AE requests that Generator Owners and

Generator Operators in the ERCOT Interconnection be exempted from this requirement. The Regional Standard, BAL-001-TRE-1 - Primary Frequency Response incorporates specific performance requirements for Generator Owners and Generator Operators related to setting Governor dead-band and droop parameters and providing Primary Frequency Response. In the ERCOT Interconnection, all generator governors (unless exempted by ERCOT) must be in service and performing with an un-muted response to ensure an Interconnection minimum Frequency Response to a frequency disturbance event.

Likes 0

Dislikes 0

Response

Joe Tarantino - Sacramento Municipal Utility District - 1,3,4,5,6 - WECC

Answer

Yes

Document Name

Comment

The majority of frequency response is provided by rotating masses, such as generators with synchronized torque and motors connected to the interconnection. There is compelling evidence and testimony from multiple sources—BAs, transmission operators, and NERC reports—to show that many synchronous generators, the primary source of primary frequency response, are not providing the expected proportional response to frequency excursions. Currently, there is no “mechanism” available to the BAs to compel Generator Owners or Generator Operators to have their facilities provide the necessary primary frequency response during an event. BAL-003 must be revised to address this shortcoming.

Likes 0

Dislikes 0

Response

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body

Answer

Yes

Document Name

Comment

SCL is both a BA and a GO/GOP. So this proposed revision will not change SCL's responsibility.

Likes 0

Dislikes 0

Response

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6

Answer Yes

Document Name

Comment

Frequency response is a measure of an interconnection’s post-contingency response, and in WECC that comes primarily from generator governor action. Putting the obligation on the BA without also providing authority over the GOP to require frequency response creates a system where many entities do not have the means to meet compliance. Even if the allocation of obligation is corrected, it does not change the fact that the current metric of FRM does not accurately measure frequency response. It can be clearly shown that change in BAA net interchange does not accurately measure the frequency response supplied by that BAA if it is in a finite interconnection. By using interchange as a proxy for frequency response in a finite interconnection, we are left with a zero-sum game where BAs compete for a share of the contingent unit credit. This has created a situation where in order to meet compliance, it can be beneficial to reduce system reliability by delaying/gaming governor settings. Alternatively, it is possible for a BA to unilaterally over-respond and cause other entities to fail where their only recourse for compliance is to purchase FRM from that entity or shed load.

Likes 0

Dislikes 0

Response

Mike Magruder - Avista - Avista Corporation - 1,3,5

Answer Yes

Document Name

Comment

The majority of frequency response is provided by rotating masses, such as generators with synchronized torque and motors connected to the interconnection. There is compelling evidence and testimony from multiple sources—BAs, transmission operators, and NERC reports—to show that many synchronous generators, the primary source of primary frequency response, are not providing the expected proportional response to frequency excursions. Currently, there is no “mechanism” available to the BAs to compel Generator Owners or Generator Operators to have their facilities provide the necessary primary frequency response during an event. There may be other resources available to provide primary frequency response, but there is also no “mechanism” available to compel these operating entities configure their facilities to provide primary frequency response. BAL-003 must be revised to address this shortcoming.

Likes 0

Dislikes 0

Response

Angela Gaines - Portland General Electric Co. - 1,3,5,6

Answer	Yes
Document Name	
Comment	
<p>BAL-003 should be revised to include some sort of mechanism for BAs to compel GOs and GOPs to provide the necessary primary frequency response during events. Currently there is no such mechanism, despite the fact that there is strong evidence that many synchronous generators, whose rotating masses provide the majority of frequency response, are not providing a proportional response to frequency events.</p>	
Likes	0
Dislikes	0
Response	
David Ramkalawan - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
<p>OPG agrees with closing the reliability gap with respect to the applicable entity as long as the requirements to the GO/GOP are properly and clearly defined.</p> <p>OPG support the clarification of non-synchronous generation compliance obligation for the provision of essential reliability services like frequency control and ramping capability/flexible capacity.</p> <p>We are also in agreement with the revision of the allocation formula to adequately reflect the composition of the grid and more accurately place the burden of frequency response.</p>	
Likes	0
Dislikes	0
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
<p>Texas RE appreciates the SDT's efforts to properly align compliance responsibilities for providing frequency response with those Registered Entities actually capable of performing that specific reliability task. To that end, Texas RE agrees that the BAL-003 Standard should impose certain mandatory frequency response requirements on Generation Owners (GO) and Generation Operators (GOP). As the accompanying technical guidance document sets forth, the current BAL-001-TRE-1 Standard requires GOs and GOPs to set governor droop and deadband settings in accordance with specified criteria (BAL-001-TRE-1 R6), operate with their governor in service (BAL-001-TRE-1 R7), and meet both initial and sustained frequency response</p>	

performance metrics (BA-001-TRE-1 R9 and R10). Texas RE recommends that the SDT consider these collective approaches in designing a new BAL-003 Standard.

Likes 0

Dislikes 0

Response

sean erickson - Western Area Power Administration - 1,6

Answer

Yes

Document Name

Comment

The majority of frequency response is provided by rotating masses, such as generators with synchronized torque and motors connected to the interconnection. There is compelling evidence and testimony from multiple sources—BAs, transmission operators, and NERC reports—to show that many synchronous generators, the primary source of primary frequency response, are not providing the expected proportional response to frequency excursions. Currently, there is no “mechanism” available to the BAs to compel Generator Owners or Generator Operators to have their facilities provide the necessary primary frequency response during an event. BAL-003 must be revised to address this shortcoming.

For small BAs with a limited amount of generation and tie lines Net Interchange does not provide a precise measure of actual response when the required response for a BA is less than 1 MW/0.1Hz during a disturbance. Tie line meters toggling a single whole MW in the incorrect direction could make it appear that the BA responded in the wrong direction when generation does show a response in the correct direction.

Likes 0

Dislikes 0

Response

Jeff Rehfeld - NaturEner USA, LLC - 5 - WECC

Answer

Yes

Document Name

Comment

Comments: The majority of frequency response is provided by rotating masses, such as generators with synchronized torque and motors connected to the interconnection. There is compelling evidence and testimony from multiple sources—BAs, transmission operators, and NERC reports—to show that many synchronous generators, the primary source of primary frequency response, are not providing the expected proportional response to frequency excursions. Currently, there is no “mechanism” available to the BAs to compel Generator Owners or Generator Operators to have their facilities provide the necessary primary frequency response during an event. BAL-003 must be revised to address this shortcoming, subject to the considerations set forth in the immediately following paragraph.

A one-size fits all blanket rule should not be imposed which requires all generators to have to install capability to provide primary frequency response above their inherent characteristics/capabilities. Among other things, mandating that all generators be required to install capabilities to provide primary frequency response (1) fails to take into account the individual characteristics of different generator types and their unique advantages and disadvantages (e.g., wind generators’ limited ability and cost-prohibitive impact of providing primary frequency response in an under-frequency event

situation) as well as diversity benefits, (2) is uneconomical and will result in an inefficient use of limited resources (the costs may often dwarf any limited benefit), (3) may result in an oversupply of frequency response, (4) will hinder if not effectively “crowd out” the development of more efficient approaches including options for compliance offered (or at least complemented) by frequency response sharing groups/pools, bilateral contracts and other always emerging market solutions, and (4) may decrease the ability to provide secondary frequency response.

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3

Answer Yes

Document Name

Comment

Adding the frequency response obligation to the BA without also providing authority over the GOP to require frequency response creates a system where some entities may not have the means to meet compliance. Using interchange as a proxy for frequency response may be inaccurate and needs further review.

Likes 0

Dislikes 0

Response

Jeanne Kurzynowski - Consumers Energy Company - 1,3,4,5 - RF, Group Name Consumers Energy Company

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mike Smith - Manitoba Hydro - 1,3,5,6, Group Name Manitoba Hydro

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Tolo - Unisource - Tucson Electric Power Co. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	
Document Name	
Comment	
BPA is a member of the WFRSG and supports the WFRSG SAR. There are many things in the current BAL-003 standard that need to be changed.	

BPA assumes this question relates to adding the GO/GOP to the list of applicable entities for this standard. BPA disagrees that the GO/GOP should be added to the list of responsible entities. BPA believes that the BA is the responsible entity for this standard. Frequency Response should be considered another product procured from a generator or load by the BA to meet its responsibilities the same as Schedules 3, 5 and 6. The BA has the wide area view needed for determining the amount of frequency responsive reserve that should be held to meet its compliance obligation. BPA is concerned that a GO/GOP requirement could lead to inefficient operations of a generation fleet, because too much capacity would be held aside for frequency response.

Through participation in the WFRSG BPA has heard the concerns of many BA's related to the current BAL-003 standard and respects their position regarding their inability to require a generator to provide frequency response. BPA believes that the Standard Drafting Team should hear arguments and fully evaluate the standard to determine the correct applicable entity or entities.

In addition, BPA takes issue in how this question is presented. BPA did not see a specific proposed revision in the above question, and therefore finds it hard to answer either yes or no. Instead BPA was forced to make its own assumptions regarding what the question pertained to. Therefore we cannot provide specific language, because no specific revision was proposed. In general, BPA does support the drafting team considering a revision to the standard to reflect what is required for real-time reliability.

Likes	0
Dislikes	0
Response	

2. The SAR proposes to modify the current BAL-003-1.1 standard to allow for real-time measurement of frequency performance instead of a two year old allocation. Do you agree with this proposed revision? If not, please provide specific language on the proposed revision.

Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6

Answer No

Document Name

Comment

AECI has concerns with the proposed modifications that allow for real-time frequency performance instead of a two year old allocation. Sufficient detail has not been presented in regards to this approach. Would a Responsible Entity be required to meet frequency response obligations for every event? Would there be any exemptions for a Responsible Entity that is experiencing the generation loss? AECI sees merit in the approach, but cannot agree with the proposal in question 2 until further details are provided.

Likes 0

Dislikes 0

Response

Neil Swearingen - Salt River Project - 1,3,5,6 - WECC

Answer No

Document Name

Comment

Without a clear proposed method of Real-Time measurement, SRP cannot support the implementation of such a change. Neither can SRP provide specific language revisions. SRP is concerned the proposed transition to Real-Time measurement could incur high costs from overly strict operating conditions or other unforeseen consequences. Moreover, the current measure, though retrospective, is effective in creating sufficient frequency response in each interconnection.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no Dominion NextERA Con-Ed ISO-NE

Answer No

Document Name

Comment

Linking real time frequency to real time asset response may be inappropriate since generation production may not be not a continuous function of each asset. NPCC supports the current concept that the diversity of primary response is properly reflected in the use of long-term average frequency for

computing the bias settings utilized in the ACE equation.

Likes 0

Dislikes 0

Response

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6

Answer

No

Document Name

Comment

Tacoma Power does not believe real time monitoring should be prescribed through reliability standards. However, Tacoma believes that behind the meter solar has become prevalent enough so that it requires both the generator and load, which are behind the meter, be included in the BAs portion of the Interconnection Frequency Reserve Obligation.

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE

Answer

No

Document Name

Comment

Xcel Energy has concerns on how this would be implemented. It is important to be able to look at the data from each event to verify accuracy and make adjustments. Synchronized real time data would be optimal and may be required.

Further, if generator owners will be required to operate with governors in-service with defined droop and deadband, allowances must be made for generator owners to notify transmission coordinators if a failure occurs that prevents equipment from operating in its normal manner and prevents frequency response. The AGC frequency bias logic is used so AGC signal does not wash out primary frequency response of turbine-generators. This can also be applied for other equipment failure modes.

Likes 0

Dislikes 0

Response

Janis Weddle - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name Chelan PUD

Answer

No

Document Name	
Comment	
While the allocation may use two-year-old data, Chelan PUD believes the standard is sufficient for its intended purpose.	
Likes	0
Dislikes	0
Response	
Shelby Wade - PPL - Louisville Gas and Electric Co. - 2,5,6 - SERC, Group Name Louisville Gas and Electric Company and Kentucky Utilities Company	
Answer	No
Document Name	
Comment	
<p>Concern over Frequency Response (FR) to large, infrequent loss of resource events that significantly impact interconnection frequency has taken years to develop and rose to a level justifying the creation of a reliability standard (BAL-003-1.1). The standard is relatively new and has been effective in raising awareness of FR and assigning responsibility for FR performance. Unless there is evidence that the standard is not stabilizing/improving an interconnection's FR, it seems premature to take the significant step of making FR a real-time reliability issue.</p> <p>Making FR a real-time issue would have significant operating, economic and administrative impacts. The provision, monitoring and reporting of FR Resources (FRR) would be analogous to Operating Reserves (Contingency and Regulating Reserves). Such an effort does not seem justified unless the inadequacy of the current BAL-003-1.1 can be clearly demonstrated and there is a lack in reliability.</p> <p>If a new way of calculating FR is proposed utilizing real-time information, then NERC should consider a voluntary field trial using the new methodology (similar to BAAL). This would allow companies to assess their historical FR calculation and compare it to the FR calculated under a new methodology.</p>	
Likes	0
Dislikes	0
Response	
Albert DiCaprio - PJM Interconnection, L.L.C. - 2 - SERC,RF, Group Name ISO Standards Review Committee	
Answer	No
Document Name	
Comment	
The concept of linking real time frequency to real time asset response ignores the fact that generation production is not a continuous function for each asset. The SRC supports the current concept that the diversity of primary response is properly reflected in the use of long-term average frequency for computing the bias settings utilized in the ACE equation.	
Likes	0

Dislikes 0

Response

Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF

Answer No

Document Name

Comment

PJM sees merit in real-time measurement in frequency response reserves and performance. However, PJM does not see this as a replacement for the historical performance assessments and allocations of frequency bias.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer No

Document Name

Comment

Linking real time frequency to real time asset response may be inappropriate since generation production may not be not a continuous function of each asset. The IESO supports the current concept that the diversity of primary response is properly reflected in the use of long-term average frequency for computing the bias settings utilized in the ACE equation.

Likes 0

Dislikes 0

Response

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer No

Document Name

Comment

The scope and complexity of the work defined in the SAR indicates a large effort which if incorporated with Phase I will delay making the needed corrections. The phased approach needs to be two distinctive processes. We should not delay the correction proposed in phase I to incorporate any proposed modifications that are noted in phase II. This SAR needs to address only the changes required after modifications of Phase I are complete.

Likes 0

Dislikes 0

Response

Michelle Amarantos - APS - Arizona Public Service Co. - 1,3,5,6

Answer No

Document Name

Comment

It is unclear whether the real-time measurement would wholly replace the current method for calculation and allocation or is being proposed to provide additional benefits in real-time. Without clarity regarding the proposal and its potential for impacts, AZPS is concerned that the SAR is not clear enough to allow for proper evaluation. If the intent is to wholly replace the current methods of calculation and allocation, AZPS cannot support such proposal as such would significantly increase costs and complicate resource planning and adequacy efforts. No evidence has been offered as to reliability issues occurring due to neither the current method nor how a real-time measurement would resolve those issues.

Likes 0

Dislikes 0

Response

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body

Answer No

Document Name

Comment

Although City Light agrees with the issues identified with the current standard (such as the assumption that frequency response is linear; using last two-year information to allocate IFRO; and performance is determined by the median event of historical responses,) City Light still thinks the existing standard is sufficient for the intended use at this time. To do the calculations for the real-time measurement of frequency performance for all kinds of real time system conditions and next N-1 contingencies will be very difficult to implement and probably will not be cost effective.

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

Real-time measurement of frequency performance has merit, but it should be in addition to, not a substitute for, determination of frequency bias settings. Much like DCS requirements, there is merit in requirements for both performance and longer term determination of minimum response requirements.

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 3,5

Answer

No

Document Name

Comment

AEP believes that a Real-time assessment of frequency performance, or an after-the-fact assessment of frequency performance such as required in BAL-001-TRE, is neither possible nor advisable for an interconnection having excess synchronous inertia that limits the extent of n-1 frequency events. The "two year old allocation" of the existing standard is sufficient for the intended use at this time.

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3

Answer

Yes

Document Name

Comment

Allowing for a real-time measurement of frequency performance appears to be an improvement.

Likes 0

Dislikes 0

Response

Jeff Rehfeld - NaturEner USA, LLC - 5 - WECC

Answer

Yes

Document Name	
Comment	
<p>Comments: Frequency response is required and provided during real-time resource contingencies within the interconnection. Currently BAL-003-1.1 does not measure at the time of the event the ability to provide frequency response nor does it identify the parties that may have the ability to respond under the current real-time topology (transmission, generation and demand). Utilizing two year old data to allocate the Interconnection Frequency Response Obligation fails to recognize real-time conditions and how topologies may change.</p>	
Likes	0
Dislikes	0
Response	
<p>sean erickson - Western Area Power Administration - 1,6</p>	
Answer	Yes
Document Name	
Comment	
<p>Frequency response is required and provided immediately after an event occurs within the interconnection. Currently BAL-003-1.1 provides no mechanism to ensure the availability to provide frequency response at the time of the event nor does it reflect current real-time topology that may limit the ability to respond (transmission, generation and demand). The use of historical data to determine the median response for BAL-003 compliance reporting provides no assurance that all BAs will respond realtime to all disturbances. If a Balancing Authority has a known shortage during a certain time of year the BA could chose to not provide the required response for that period and rely on the rest of the events in the compliance period to pass the standard given the current measurement criteria. Utilizing two year old data to allocate the Interconnection Frequency Response Obligation fails to recognize real-time conditions and how topologies may change.</p>	
Likes	0
Dislikes	0
Response	
<p>David Ramkalawan - Ontario Power Generation Inc. - 5</p>	
Answer	Yes
Document Name	
Comment	
<p>OPG agrees with the real-time measurement of frequency performance and expresses concerns with respect to the extent of the implications for all involved existing ICCP communication/control links that do not satisfy the latency requirements.</p>	
Likes	0
Dislikes	0

Response	
Angela Gaines - Portland General Electric Co. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
<p>The current standard's use of two-year old data does not take into account real-time conditions and the changing nature of topologies and therefore does not provide an adequate way of measuring frequency performance. The standard should be revised to address the ability of a party to provide real-time frequency response during resource contingencies.</p>	
Likes 0	
Dislikes 0	

Response	
Mike Magruder - Avista - Avista Corporation - 1,3,5	
Answer	Yes
Document Name	
Comment	
<p>Frequency response is required and provided during real-time resource contingencies within the interconnection. Currently BAL-003-1.1 does not measure at the time of the event the ability to provide frequency response nor does it identify the parties that may have the ability to respond under the current real-time topology (transmission, generation and demand). Utilizing two year old data to allocate the Interconnection Frequency Response Obligation fails to recognize real-time conditions and how topologies may change.</p>	
Likes 0	
Dislikes 0	

Response	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	Yes
Document Name	
Comment	
<p>Load and generation profiles are rapidly changing, and using old data from Form 714 to allocate a static obligation is grossly inaccurate. Once again, the standard incorrectly assumes that every BA is identical when there exist vast differences in load profiles and resource mix. Allocation would have to be real-time and dynamic in order to be accurate. In WECC, BAA's are currently required to calculate 3% of their real time load and generation, and this value is used as a requirement for Contingency Reserves. Additionally a real time calculation of estimated available capacity is also required. A</p>	

similar real time calculation should be feasible and could more accurately represent system conditions in real time for the purposes of frequency response requirements.

Likes 0

Dislikes 0

Response

Joe Tarantino - Sacramento Municipal Utility District - 1,3,4,5,6 - WECC

Answer

Yes

Document Name

Comment

Frequency response is required and provided during real-time resource contingencies within the interconnection. Currently BAL-003-1.1 does not measure at the time of the event the ability to provide frequency response nor does it identify the parties that may have the ability to respond under the current real-time topology (transmission, generation and demand). Utilizing two year old data to allocate the Interconnection Frequency Response Obligation fails to recognize real-time conditions and how topologies may change.

Likes 0

Dislikes 0

Response

Andrew Gallo - Austin Energy - 1,3,4,5,6

Answer

Yes

Document Name

Comment

AE agrees with the modification to allow for real-time measurement of frequency events to assess primary frequency performance. However, AE requests the ERCOT Interconnection be exempted from this requirement. The Regional Standard, BAL-001-TRE-1 - Primary Frequency Response incorporates specific requirements for the Balancing Authority related to identifying actual real-time Frequency Measureable Events, calculating the Primary Frequency Response of each generation resource in the Region, calculating the Interconnection minimum Frequency Response and monitoring the actual Frequency Response of the Interconnection.

Likes 0

Dislikes 0

Response

Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer Yes

Document Name

Comment

BAs can have large changes in their generation mix from year to year. A large generator could be removed from a BA either by shutting down of being placed in another BA while continuing to operate. In this case, the FRO for the BA in a particular year could be artificially high for one BA and artificially low for another due to the delay involved to determine the FRO. If a frequency standard examined generator response rather than a measure related to a BA, this inequity should not occur.

Likes 0

Dislikes 0

Response

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer Yes

Document Name

Comment

The current BAL-003-1.1 standard has the Balancing Authority reviewing and analyzing event data that was taken over a year ago to see if the Balancing Authority met the minimum requirement. After reviewing and analyzing the events, if the Balancing Authority discovers it did not meet the standard, it is too late for the Balancing Authority to try and resolve the issue. If the Balancing Authority had the chance to correct the issue, this would increase reliability of the grid and give the Balancing Authority another chance to pass the standard.

The current purpose of the BAL-003-1.1 standard is to maintain Interconnection Frequency by arresting frequency deviations, and this can only be done if the standard requires real time analysis. Real time analysis and requirements would allow all parties to review and adjust how their units will respond to the next event.

Likes 0

Dislikes 0

Response

James Ramos - Turlock Irrigation District - 1,3,4,5,6

Answer Yes

Document Name

Comment

Although frequency response is required and actually provided in real-time to address resource contingencies within the interconnection, the current BAL-003-1.1 does not measure at the time of the event the ability to provide frequency response nor does it identify the parties that may have the ability

to respond under the current real-time topology (transmission, generation and demand). Utilizing two year old data to allocate the Interconnection Frequency Response Obligation fails to recognize real-time conditions and how topologies may change.

Likes 0

Dislikes 0

Response

Antonio Franco - Gridforce Energy Management, LLC - NA - Not Applicable - WECC

Answer Yes

Document Name

Comment

Gridforce Energy Management agrees and supports the SAR. The allocation of FRO should happen real time based on system conditions and available resources to support potential losses of resource output. Therefore, BA's actual FRO should be a dynamic target based on the BA's real time generation plus load during a BAL-003 event selected by the NERC FWG.

Likes 0

Dislikes 0

Response

Theresa Rakowsky - Puget Sound Energy, Inc. - 1,3,5

Answer Yes

Document Name

Comment

Puget Sound Energy (PSE) fully supports the SAR for Project 2017-01 and proposed revisions. FERC Form 714 does not accurately show the state of the interconnection because it uses historical data that is over 2-years old; data should be current or at least within the last (rolling) 12 month period.

Likes 0

Dislikes 0

Response

Dori Quam - NorthWestern Energy - 1 - WECC

Answer Yes

Document Name

Comment

Frequency response is required and provided during real-time resource contingencies within the interconnection. Currently BAL-003-1.1 does not measure at the time of the event the ability to provide frequency response nor does it identify the parties that may have the ability to respond under the current real-time topology (transmission, generation and demand). Utilizing two-year-old data to allocate the Interconnection Frequency Response Obligation fails to recognize real-time conditions and how topologies may change. The SAR to modify BAL-003-1.1 should specify criteria and design calculations for the real-time measurement of frequency performance.

Likes 0

Dislikes 0

Response

Casey Johnston - Concerned Electrical Engineer with 40 yrs in Electrical Industry - NA - Not Applicable - NA - Not Applicable

Answer

Yes

Document Name

Comment

Frequency response is required and provided during real-time resource contingencies within the interconnection. Currently BAL-003-1.1 does not measure at the time of the event the ability to provide frequency response nor does it identify the parties that may have the ability to respond under the current real-time topology (transmission, generation and demand). Utilizing two year old data to allocate the Interconnection Frequency Response Obligation fails to recognize real-time conditions and how topologies may change. The SAR to modify BAL-003-1.1 should specify criteria and design calculations for the real-time measurement of frequency performance.

Likes 0

Dislikes 0

Response

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Tolo - Unisource - Tucson Electric Power Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Mike Smith - Manitoba Hydro - 1,3,5,6, Group Name Manitoba Hydro

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jeanne Kurzynowski - Consumers Energy Company - 1,3,4,5 - RF, Group Name Consumers Energy Company

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Document Name**Comment**

BPA is a member of the WFRSG and supports the WFRSG SAR. There are many things in the current BAL-003 standard that need to be changed.

BPA does not know how to interpret this question. Mention of the real time measure of frequency performance does not seem to fit with the allocation of the IFRO. BPA does see issues in the two year old data used to allocate responsibility. BPA encourages the Standards Drafting Team to consider revising how the IFRO is allocated.

BPA takes issue in how this question is presented. BPA did not see a specific proposed revision in the above question, and therefore finds it hard to answer either yes or no. Instead BPA was forced to make its own assumptions regarding what the question pertained to. Therefore we cannot provide specific language, because no specific revision was proposed. In general, BPA does support the drafting team considering a revision to the standard to reflect what is required for real-time reliability.

Likes 0

Dislikes 0

Response

3. The SAR proposes to modify the current BAL-003-1.1 standard to eliminate the incorrect signals to the market for arbitrary pricing and conditions. Do you agree with this proposed revision? If not, please provide specific language on the proposed revision.

Thomas Foltz - AEP - 3,5

Answer No

Document Name

Comment

AEP believes that a Reliability Standard is adopted to sustain or improve reliability, and not to support the energy markets. Discussion of commercial considerations is outside the scope of a Reliability Standard and should not be matters of discussion within standards development.

Likes 0

Dislikes 0

Response

RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC

Answer No

Document Name

Comment

This is a Balancing Authority control issue and should not be applied to a NERC Standard. Should not this be addressed in BAL-001?

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

The information in the SAR and the background document do not provide enough information to clearly understand the intent of the perceived problem or a proposed solution to it.

Likes 0

Dislikes 0

Response

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body

Answer No

Document Name

Comment

This is a reliability standard. It is not appropriate to discuss the Market Pricing here.

Likes 0

Dislikes 0

Response

Michelle Amarantos - APS - Arizona Public Service Co. - 1,3,5,6

Answer No

Document Name

Comment

AZPS respectfully asserts that market issues and/or distortions are not appropriate justifications for the revision of reliability standards. While a reliability standard should not interfere with market principles, they are not the appropriate vehicle to “cure” market issues. Such issues are often market-specific and, therefore, are better addressed within the stakeholder processes of the Market Operator or with the FERC. Additionally, AZPS notes that the SAR is unclear about the specific market distortions being caused by BAL-003-1, its intent or method for correction, and how the proposed revisions would correct the identified distortions. AZPS has not observed any market-related distortions as a result of BAL-003-1 and, without adequate and sufficient information and justification, cannot support revision.

Likes 0

Dislikes 0

Response

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer No

Document Name

Comment

The SAR does not provide details of the incorrect market signals to determine if this is needed or required.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer No

Document Name

Comment

The IESO does not agree with linking NERC standards to market mechanisms/decisions. NERC standards should be written only to meet reliability objectives.

Likes 0

Dislikes 0

Response

Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF

Answer No

Document Name

Comment

PJM does not believe it is appropriate for NERC to address market signals or pricing.

Likes 0

Dislikes 0

Response

Albert DiCaprio - PJM Interconnection, L.L.C. - 2 - SERC,RF, Group Name ISO Standards Review Committee

Answer No

Document Name

Comment

The SRC does not agree that this NERC standard is or should be linked to Market decisions.

Likes 0

Dislikes 0

Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	No
Document Name	
Comment	
Texas RE supports eliminating arbitrary estimates and non-comparable formulas where appropriate. The SDT will need to clearly demonstrate the specific aspects of the current Standard that result in incorrect signals to provide primary frequency response, as well as other unintended consequences stemming from the current Standard design. Texas RE looks forward to reviewing and carefully considering this specific evidence in the Standard Development process.	
Likes 0	
Dislikes 0	
Response	
Shelby Wade - PPL - Louisville Gas and Electric Co. - 2,5,6 - SERC, Group Name Louisville Gas and Electric Company and Kentucky Utilities Company	
Answer	No
Document Name	
Comment	
While the SAR appears to propose some kind of modifications on market signals, there is insufficient information in the SAR and no information at all in the supporting materials to understand what is being proposed to be addressed or modified. In any case, the market signal issue should only be addressed in a SAR if it is directly connected to reliability. Reliability standards should address reliability issues; they are not the appropriate vehicle for addressing market issues.	
Likes 0	
Dislikes 0	
Response	
Janis Weddle - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name Chelan PUD	
Answer	No
Document Name	
Comment	
Standards exist and should be written to improve reliability and not to evaluate commercial considerations. The Standard drafting team should simply	

ensure that what is written can achieve a reliability benefit in excess of the costs needed to achieve that benefit.

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE

Answer

No

Document Name

Comment

It's not clear how this can be accomplished nor why a market rule should not be developed instead of altering a reliability requirement.

We encourage the drafting team to consider the previous NERC Advisory on Generator Frequency Response of 2015 and the Reliability Guideline on Primary Frequency Control. If generator owners will be required to operate with defined droop and deadband, guidance on correct droop and deadband for each type of plant would be appreciated. The 2015 Advisory did not differentiate between fossil, nuclear, combined cycle, etc; there was, however, some guidance in the Reliability Guideline. We also request the drafting team to consider the limitations of nuclear units to provide frequency response to under-frequency events.

Likes 0

Dislikes 0

Response

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer

No

Document Name

Comment

We caution the reference to arbitrary market pricing and elimination of market signals in the reliability standard development process. NERC Reliability Standards focus on developing a results-based approach regarding the performance and capabilities of registered entities and their operations, planning, and risk management activities regarding the bulk power system. We disagree that it is NERC regulations that drive market signals, and we believe such references should be removed from the SAR.

Likes 0

Dislikes 0

Response

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6

Answer	No
Document Name	
Comment	
Tacoma Power believes that although Balancing Authorities do not inherently have frequency responsive capabilities, these capabilities can be acquired via contractual agreements and market products. It appears the current market is not arbitrary. FERC should consider providing direction as to who should be compensating BAs for acquiring frequency response products necessary to meet this standard. However, Tacoma suggests that NERC review the standard for alignment between desired frequency performance and existing performance measurement.	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no Dominion NextERA Con-Ed ISO-NE	
Answer	No
Document Name	
Comment	
NPCC does not agree with linking NERC standards to market mechanisms/decisions. NERC standards should be written only to meet reliability objectives.	
Likes 0	
Dislikes 0	
Response	
Neil Swearingen - Salt River Project - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
SRP supports the comments submitted by AZPS in response to question 3.	
Likes 0	
Dislikes 0	
Response	
Casey Johnston - Concerned Electrical Engineer with 40 yrs in Electrical Industry - NA - Not Applicable - NA - Not Applicable	

Answer	Yes
Document Name	
Comment	
BAL-003 should not create a new market for a reliability product that currently exists. Under the current version of BAL-003-1.1 a GO/GOP can charge customers twice for the same capacity needed for reliability purposes. The difference between the capacity products is simply a time measurement period. For example, 10 MW of Contingency Spinning Reserves can also be sold as FRR. This is the same product and capacity but the customer pays twice.	
Likes 0	
Dislikes 0	
Response	
Dori Quam - NorthWestern Energy - 1 - WECC	
Answer	Yes
Document Name	
Comment	
BAL-003 should not create a new market for a reliability product that currently exists. Under the current version of BAL-003-1.1 a GO/GOP can charge customers twice for the same capacity needed for reliability purposes. The difference between the capacity products is simply a time measurement period. For example, 10 MW of Contingency Spinning Reserves can also be sold as FRR. This is the same product and capacity, but the customer pays twice.	
Likes 0	
Dislikes 0	
Response	
Theresa Rakowsky - Puget Sound Energy, Inc. - 1,3,5	
Answer	Yes
Document Name	
Comment	
The current standard is overly burdensome on Balancing Authorities with compliance obligations to maintain reliability because it provides no recourse if a Generator Owner (GO) does not implement and provide frequency response capabilities. GOs are an inherent part of the Bulk Electric System and are the best resource to support immediate frequency response needs on the Interconnection.	
Likes 0	

Dislikes 0

Response

James Ramos - Turlock Irrigation District - 1,3,4,5,6

Answer

Yes

Document Name

Comment

BAL-003 should drive market signals that reflect what is truly needed for reliability, to ensure 100% coverage for the interconnection through equipment capability, capacity, and dispatch, and provide correct signals to the parties with the ability to deliver real-time frequency response.

Likes 0

Dislikes 0

Response

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer

Yes

Document Name

Comment

BAL-003-1.1 should drive market signals that reflect what is truly needed for reliability, to ensure 100% coverage for the interconnection through equipment capability, capacity, dispatch, and provide correct signals to the parties with the ability to deliver real-time frequency response. The conditions that have been set in the standard are arbitrary, especially in regards to when, how, and where you need them.

Likes 0

Dislikes 0

Response

Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer

Yes

Document Name

Comment

Grant PUD would like to stress there is **nothing arbitrary** about the pricing that has occurred for the supply of frequency response. When Grant PUD has determined prices to use in responding to RFPs for frequency response, we have carefully considered the risks involved and the finite supply available. The fact that RFPs are generally used by a purchaser indicates pricing is not arbitrary.

Likes 0

Dislikes 0

Response

Joe Tarantino - Sacramento Municipal Utility District - 1,3,4,5,6 - WECC

Answer Yes

Document Name

Comment

BAL-003 should drive market signals that reflect what is truly needed for reliability, to ensure 100% coverage for the interconnection through equipment capability, capacity, and dispatch, and provide correct signals to the parties with the ability to deliver real-time frequency response.

Likes 0

Dislikes 0

Response

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6

Answer Yes

Document Name

Comment

While PacifiCorp does not believe the pricing of FRM in and of itself has been arbitrary, it is clear that the calculation and allocation of FRM is inaccurate and arbitrary, and therefore has created an arbitrary product for which BAA's have had to create prices, buy and sell. Therefore PacifiCorp strongly agrees that the mechanisms behind these calculations and allocations need to be addressed.

Likes 0

Dislikes 0

Response

Mike Magruder - Avista - Avista Corporation - 1,3,5

Answer Yes

Document Name

Comment

A Reliability Standard does not address market issues, but at the same time, a Reliability Standard should establish a performance requirement that supports system reliability. "Meeting the requirement" should enhance reliability, which is the goal of the standard. R1 measures the median performance of a BA over a 12 month period. Every BA in the interconnection could fail to provide FRR for a single event, the interconnection could suffer underfrequency load shedding and eventual break up, and each BA would still pass R1 if it met the median requirement for the measurement year. It seems that BAL-003-1 does not enhance system reliability, but could encourage operational practices that could degrade system reliability. If a BA has passed 13 events (assuming 25 for the year), after the 13th pass, the BA could alter its generation operations minimizing primary frequency response, still passing for the year, but degrading overall reliability for a portion of the year.

Likes 0

Dislikes 0

Response

Angela Gaines - Portland General Electric Co. - 1,3,5,6

Answer Yes

Document Name

Comment

BAL-003 should provide correct market signals to those parties who are able to deliver real-time frequency response and that reflect what is actually needed to ensure complete coverage for the Interconnection through equipment capability, capacity and dispatch.

Likes 0

Dislikes 0

Response

sean erickson - Western Area Power Administration - 1,6

Answer Yes

Document Name

Comment

BAL-003 should drive market signals that reflect what is truly needed for reliability, to ensure 100% coverage for the interconnection through equipment capability, capacity, and dispatch, and provide correct signals to the parties with the ability to deliver real-time frequency response. Purchase and Sale of Frequency Response does nothing to maintain or improve the Frequency Response of the bulk system, instead it drives a market to equitably distribute the actual historical Frequency Response between all entities in an interconnection.

Likes 0

Dislikes 0

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer Yes

Document Name

Comment

The SPP Standards Review Group has a concern that the proposed modification could create Marketing issues outside the scope of the Standards Drafting Team.

Likes 0

Dislikes 0

Response

Jeff Rehfeld - NaturEner USA, LLC - 5 - WECC

Answer Yes

Document Name

Comment

Comments: BAL-003 should drive market signals that reflect what is truly needed for reliability, to ensure 100% coverage for the interconnection through equipment capability, capacity, and dispatch, and provide correct signals to the parties with the ability to deliver real-time frequency response, each subject to and mindful of the considerations raised by Commenter in the second paragraph to its Comments to Question 1 above.

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3

Answer Yes

Document Name

Comment

If using interchange as a proxy for frequency response contains inaccurate signals then system reliability could be negatively impacted. Mandatory NERC standards that carry penalties must be accurate and cannot negatively impact system reliability.

Likes 0

Dislikes 0

Response

Antonio Franco - Gridforce Energy Management, LLC - NA - Not Applicable - WECC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Jeanne Kurzynowski - Consumers Energy Company - 1,3,4,5 - RF, Group Name Consumers Energy Company	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Andrew Gallo - Austin Energy - 1,3,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Mike Smith - Manitoba Hydro - 1,3,5,6, Group Name Manitoba Hydro	
Answer	Yes
Document Name	
Comment	

Likes 0

Dislikes 0

Response

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

David Ramkalawan - Ontario Power Generation Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Tolo - Unisource - Tucson Electric Power Co. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer	
Document Name	
Comment	
<p>BPA is a member of the WFRSG and supports the WFRSG SAR. There are many things in the current BAL-003 standard that need to be changed.</p> <p>A market has been created due to this standard; however, BPA sees no market signals in the standard. BPA is not sure what is meant by arbitrary prices. On the subject of markets, BPA does have concerns looking into the future, with the median FRM being used for compliance and driving a market based on median performance.</p> <p>BPA takes issue in how this question is presented. BPA did not see a specific proposed revision in the above question, and therefore finds it hard to answer either yes or no. Instead BPA was forced to make its own assumptions regarding what the question pertained to. Therefore we cannot provide specific language, because no specific revision was proposed. In general, BPA does support the drafting team considering a revision to the standard to reflect what is required for real-time reliability.</p>	
Likes 0	
Dislikes 0	
Response	

4. Based on the scope of the Phase II section of the SAR, do you have any other comments for drafting team consideration?

Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Neil Swearingen - Salt River Project - 1,3,5,6 - WECC

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response**John Tolo - Unisource - Tucson Electric Power Co. - 1****Answer**

No

Document Name**Comment**

Likes 0

Dislikes 0

Response**Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5****Answer**

No

Document Name**Comment**

Likes 0

Dislikes 0

Response**Mike Smith - Manitoba Hydro - 1,3,5,6, Group Name Manitoba Hydro****Answer**

No

Document Name**Comment**

Likes 0

Dislikes 0

Response

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Andrew Gallo - Austin Energy - 1,3,4,5,6

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Jeanne Kurzynowski - Consumers Energy Company - 1,3,4,5 - RF, Group Name Consumers Energy Company

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no Dominion NextERA Con-Ed ISO-NE

Answer Yes

Document Name

Comment

NPCC supports the original SAR (proposed by the NERC RS and posted in June/July of this year) to correct inappropriate assumptions in the current standard. If this SAR is intended to replace or supplement the original SAR, then the following process issues arise:

- There lacks clarity as to what may happen to the first SAR. If the intent is to proceed with the first phase per the first SAR, then this currently posted SAR should be submitted as an addendum to the first SAR. It is confusing, and inappropriate, to post 2 SARs addressing in whole or in part of the same proposed project.
- Posting this SAR for industry comment may be premature, given that the first phase hasn't yet been completed and hence changes to the existing BAL-003 are not known. Some of the changes eventually embraced by the industry, adopted by the BOT and approved by regulatory authorities may address part or all of the reliability needs intended by the second phase.

The SAR lacks evidence of reliability needs/benefits to justify the second phase tasks.

Likes 0

Dislikes 0

Response

Jeff Rehfeld - NaturEner USA, LLC - 5 - WECC

Answer Yes

Document Name

Comment

Comments: The SAR identified several issues regarding the FRM as the sole measure of frequency response performance. The SAR stated: "The standard must be able to measure all types of Frequency Response and credit the providers. The current standard does not reflect different types of Frequency Response and the timing of such response." Please add the issue regarding the basis of measuring frequency response performance to this ballot.

Likes 0

Dislikes 0

Response	
Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators	
Answer	Yes
Document Name	
Comment	
<ol style="list-style-type: none"> 1. We reiterate from our previous comments that the scope identified within the SAR is too broad and appears to have no definite deadlines. The current proposal to split its activities into two separate phases is problematic, as the second phase is likely to result in a field trial. Will this delay the regulatory approval activities associated with the first phase? What happens if the first phase results in the issuance of FERC directives that will then need to be addressed in a third phase? 2. The previous SAR identified the possibility of relocating the standard's Attachment A to a NERC Operating Committee-approved reference document or Reliability Guideline. The proposed SAR does not clarify how this information will be treated in the future. 3. The SAR should be expanded to clarify frequency-related definitions listed within the NERC Glossary. For example, Frequency Response has two separate meanings in the NERC Glossary. 4. We thank you for this opportunity to provide these comments. 	
Likes	0
Dislikes	0
Response	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
<p>The SPP Standards Review Group has a concern that the introduction of Phase II at the current state presents confusion on what goals should be accomplished by both SAR(s). From our perspective, we feel that all goals haven't been met with reference to the first SAR and the project shouldn't move forward to the second phase until all Phase I goals have been addressed and resolved.</p>	
Likes	0
Dislikes	0
Response	
sean erickson - Western Area Power Administration - 1,6	
Answer	Yes
Document Name	
Comment	
<p>The SAR identified several issues regarding the FRM as the sole measure of frequency response performance. The SAR stated: "The standard must be</p>	

able to measure all types of Frequency Response and credit the providers. The current standard does not reflect different types of Frequency Response and the timing of such response.” Please add the issue regarding the basis of measuring frequency response performance to this ballot.

Joint Owned Units, Pseudo Ties, and Dynamic Schedules that require special consideration when using Net Actual Interchange to determine performance, the Standards Drafting Team should be sure to carefully consider their impacts.

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE

Answer

Yes

Document Name

Comment

Xcel Energy has concerns that the inclusion of measurements of all types of frequency response may over complicate this standard and become difficult to comply with and enforce.

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Yes

Document Name

Comment

BPA would like to ensure that NERC considers additional points in the SAR that do not seem to be addressed in the previous questions. These include:

- **Real time reliability and the median measure:** BPA thinks that the BAL-003 standard should be modified to address real - time reliability. By basing performance on the median of events, reliability is not assured. The median has only worked to this point because interconnections have shown historically adequate response. If response declined, and better performance was needed, an increase to the IFRO alone would not assure reliability. Even if the IFRO was increased, there is nothing to dictate that capability must be online for every event to meet the standard. It is possible that that raising the IFRO would only raise the overall median response of the interconnection, while extreme low responses on the interconnection remain. One solution to this is to move to a rolling average of performance as is in the ERCOT BAL-001-TRE standard. This would place more pressure on responsible entities to incentivize performance for every event.
- **Evaluate how frequency response is measured:** Through work done in the WFRSG BPA is aware of many issues related to using NIA in an FRM calculation. These issues are laid out in the technical document supplied by the WFRSG. As well as the issue with the calculation of the FRM, BPA does not think that the FRM should be the sole measure of frequency response. Only by comparing actual generator performance to NIA can the true response in the BA be determined. BPA also encourages the SDT to evaluate the A to B ratio, compared to a hurdle and bench measurement at the generator level. Equipment can be designed many ways to meet a 20-52 second performance window and do very

little for the initial arrest of frequency. Both hurdle and bench performances are important for adequate frequency response.

- **The standard only implies a needed capacity:** Frequency response requires both capability and capacity on a resource. This needed capacity is only implied through the standard. BPA believes that more study should be directed at determining the needed frequency response capacity on an interconnection. This capacity should be built into the standard. Without this, BA's in WECC could easily meet the standard by only holding 0.1 Hz worth of frequency response capacity. This is because the large majority of events in WECC are less than 0.1 Hz A to B frequency deviation.
- **Event Selection:** Several aspects of BAL-003's event selection and response measurement process may perversely reward poor performance and penalize proper performance. BPA encourages the SDT to evaluate the issues presented in the WFRSG technical document related to these issues.
- **Allocation of the IFRO:** BPA encourages the standard drafting team to review the issues laid out in the WFRSG technical document related to the allocation of the IFRO.

Likes 0

Dislikes 0

Response

Janis Weddle - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name Chelan PUD

Answer

Yes

Document Name

Comment

The added cost of the benefits of the SAR should be weighed against the actual benefits of the SAR. This evaluation should include the cost of the time associated with any testing, etc. to meet the added requirements of the SAR.

Likes 0

Dislikes 0

Response

Shelby Wade - PPL - Louisville Gas and Electric Co. - 2,5,6 - SERC, Group Name Louisville Gas and Electric Company and Kentucky Utilities Company

Answer

Yes

Document Name

Comment

The BAL-003-1.1 SAR technical document focuses on operating characteristics and issues which are largely unique to the Western Interconnection. As stated in the document, the Western Interconnection contains the only FRSG in North America. Although Phase 1 of the SAR could improve the standard (i.e., the calculation of IFRO), it seems the concerns addressed in Phase 2 of the SAR are primarily applicable to the Western Interconnection and its unique FRSG. This suggests a regional standard applicable to the Western Interconnection and its FRSG would be more appropriate for the

issues to be addressed in Phase 2.

Likes 0

Dislikes 0

Response

David Ramkalawan - Ontario Power Generation Inc. - 5

Answer

Yes

Document Name

Comment

The compliance obligations stemming from the newly revised BAL-003 standard should be coordinated with the UFLS to ensure the adequate frequency response occurs to rapid arrest the frequency decline and prevent the underfrequency load shedding.

Likes 0

Dislikes 0

Response

Angela Gaines - Portland General Electric Co. - 1,3,5,6

Answer

Yes

Document Name

Comment

Among other issues identified in the SAR regarding the use of FRM as the sole measure of frequency response performance, the SAR stated: "The standard must be able to measure all types of Frequency Response and credit the providers. The current standard does not reflect different types of Frequency Response and the timing of such response." PGE requests the addition of this issue to the ballot.

Likes 0

Dislikes 0

Response

Albert DiCaprio - PJM Interconnection, L.L.C. - 2 - SERC,RF, Group Name ISO Standards Review Committee

Answer

Yes

Document Name

Comment

The SRC supports the original SAR as proposed to correct inappropriate assumptions in the current standard but does not support this revision of that SAR.

Further the SRC contends:

- There is no explanation in this revision of what to do with the original SAR. If the intent is to proceed with the first phase per the first SAR, then this currently posted SAR should be submitted as an addendum to the first SAR. It is confusing, and inappropriate, to post two SARs addressing in whole or in part of the same proposed tasks.
- Posting this SAR for industry comments may be premature, given that the first phase hasn't been completed and hence changes to the existing BAL-003 are not known. Some of the changes eventually embraced by the industry, adopted by the BoT and approved by regulatory authorities may address part or all of the reliability needs intended by this second SAR.
- The SAR lack evidence of reliability needs/benefits to justify the second phase tasks.

Likes 0

Dislikes 0

Response

Mike Magruder - Avista - Avista Corporation - 1,3,5

Answer

Yes

Document Name

Comment

The standard should consider performance in the A to C time period. The present measurement period is A and B. The transition period is not measured. The Western Interconnection is seeing a changing resource mix in a portion of the interconnection. The effects of this change are unknown, and are not being carried out in a planned manner. There is a notable change in the Rate of Change of Frequency (ROCOF) for some events, resulting in faster and deeper A to C frequency changes than have been observed in the past. At some point, it will be necessary for System Operators to have awareness of primary frequency resources available in real time to meet a loss in resources and stabilize frequency. Primary frequency response can be provided by many resources. An awareness of its availability and location enhances reliable system operations.

Likes 0

Dislikes 0

Response

Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF

Answer

Yes

Document Name

Comment

PJM believes the effort should continue on the original SAR submitted by the NERC RS. This will offer the opportunity to rectify the existing defects in the current BAL-003 standard and provide an accurate baseline performance of frequency response among the BAAs and Interconnections.

PJM does see merit in some of the technical arguments presented in the supplemental SAR; namely exploring a capability requirement for all generators and real-time monitoring. PJM would support these issues being worked following completion of the existing SAR, in whatever capacity deemed appropriate (modification to BAL-003, modification/creation of a different standard).

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Yes

Document Name

Comment

The IESO supports the original SAR (proposed by the NERC RS and posted in June/July of this year) to correct inappropriate assumptions in the current standard. If this SAR is intended to replace or supplement the original SAR, then the following process issues arise:

- There lacks clarity as to what may happen to the first SAR. If the intent is to proceed with the first phase per the first SAR, then this currently posted SAR should be submitted as an addendum to the first SAR. It is confusing, and inappropriate, to post 2 SARs addressing in whole or in part of the same proposed project.
- Posting this SAR for industry comment may be premature, given that the first phase hasn't yet been completed and hence changes to the existing BAL-003 are not known. Some of the changes eventually embraced by the industry, adopted by the BoT and approved by regulatory authorities may address part or all of the reliability needs intended by the second phase.
- The SAR lacks evidence of reliability needs/benefits to justify the second phase tasks.

Likes 0

Dislikes 0

Response

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer

Yes

Document Name

Comment

The phased approach needs to be two distinctive processes. We should not delay the correction proposed in phase I to incorporate any proposed

modifications that are noted in phase II. This SAR needs to address only the changes required after modifications of Phase I are complete.

Likes 0

Dislikes 0

Response

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2

Answer

Yes

Document Name

Comment

ERCOT takes no position on this SAR; however, if any issues from the 2nd SAR are to be explored further, ERCOT recommends they be addressed by the existing standard drafting team under the existing project rather than expanded into another SDT/project.

Likes 0

Dislikes 0

Response

Michelle Amarantos - APS - Arizona Public Service Co. - 1,3,5,6

Answer

Yes

Document Name

Comment

AZPS is concerned about the clear intent to cure market issues through revisions to reliability standards. It further is concerned about the lack of justification, specificity, and supporting technical information or data provided in the SAR. Such ambiguity does not provide registered entities with the necessary data to form rigorous, comprehensive comments.

Likes 0

Dislikes 0

Response

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6

Answer

Yes

Document Name

Comment

The stated intent of the standard is to assure adequate frequency response for the interconnection to avoid under frequency load shedding for large events. As currently written this standard:

- {C}1) Does not require any frequency response for large events
- {C}2) Could allow multiple under frequency load shedding events each year without any individual entity failing compliance
- {C}3) Contains no requirement to maintain frequency responsive reserves
- {C}4) Creates an inaccurate frequency response measurement, and then allocates that measurement to entities that have no authority to require frequency response
- {C}5) Tricks BAA's into thinking they are providing frequency response due to the "FRM" calculation method

Because of this PacifiCorp believes the standard falls short of meeting its stated intent, and a thorough review is warranted.

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer Yes

Document Name

Comment

A better approach for this SAR (phase II) would be to separate it from the existing tightly scoped SAR. This allows the flexibility to potentially develop a separate standard directed toward the more appropriate FM entities.

Likes 0

Dislikes 0

Response

Joe Tarantino - Sacramento Municipal Utility District - 1,3,4,5,6 - WECC

Answer Yes

Document Name

Comment

The SAR identified several issues regarding the FRM as the sole measure of frequency response performance. The SAR stated: "The standard must be

able to measure all types of Frequency Response and credit the providers. The current standard does not reflect different types of Frequency Response and the timing of such response.”

The use of “Net Actual Interchange” may not be the best dataset for FRM. When a frequency deviation occurs due to loss of a large generator or RAS actions, generator governors respond automatically to the resulting drop in frequency. If a BAA is electrically between a large resource providing frequency response and the lost generation, transmission flows can increase on the intermediary BAA’s system. As transmission flows increase, transmission line losses increase as well. These losses appear as increased load on the intermediary BAA’s system, which can in turn affect apparent FRM performance. In some instances, even though the BAA’s generation and load response is appropriate, the losses incurred due to neighboring generator response can overwhelm the BAAs actual FRM.

Likes 0

Dislikes 0

Response

Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer

Yes

Document Name

Comment

Grant PUD is not convinced that measuring response in the 10-20 second time frame is better than using the 20-52 second timeframe. Careful evaluation needs to be performed to determine the ideal timeframe to measure response. The best timeframe to measure response may depend on the method chosen to quantify the response.

Likes 0

Dislikes 0

Response

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer

Yes

Document Name

Comment

The Phase II section of the SAR identifies the most important changes that need to occur for the BAL-003-1.1 standard to truly address reliability. Phase II addresses the need for using real-time measurements of frequency performance, the need to update the applicability of the standard, and the

need for correct market signals.

Likes 0

Dislikes 0

Response

James Ramos - Turlock Irrigation District - 1,3,4,5,6

Answer

Yes

Document Name

Comment

The current BAL-003-1.1 standard does not reflect different types of Frequency Response and the timing of such response.” Please add the issue regarding the basis of measuring frequency response performance to this ballot.

Likes 0

Dislikes 0

Response

Antonio Franco - Gridforce Energy Management, LLC - NA - Not Applicable - WECC

Answer

Yes

Document Name

Comment

Gridforce Energy Management would like to request the drafting team to consider the following:

- Allocating FRO based on BA's real time generation plus load (similar to the way CRO is calculated in the Western Interconnection).
- Re-evaluate and establish a more realistic window for calculating Primary Frequency Response (currently set between T+20 to T+52 seconds).
- Frequency Bias Setting is used by Balancing Authorities for regulation or secondary frequency response purposes. Therefore, FBS should not be calculated solely based on primary frequency response performance, which only generator governors and load are capable of providing to arrest and stabilize system frequency.

Likes 0

Dislikes 0

Response

Theresa Rakowsky - Puget Sound Energy, Inc. - 1,3,5

Answer	Yes
Document Name	
Comment	
<p>PSE considers BAL-003-1.1 to be unduly discriminatory. To address reliability, BAL-003-1.1 should be modified to impose requirements on individual generating owners' facilities and not burden Balancing Authorities with the cost of 1) procuring frequency response in the market or 2) incurring extensive administrative legal costs through separate, individual Generation Interconnection Agreements.</p>	
Likes	0
Dislikes	0
Response	
<p>Dori Quam - NorthWestern Energy - 1 - WECC</p>	
Answer	Yes
Document Name	
Comment	
<p>The SAR identified several issues regarding the FRM as the sole measure of frequency response performance. The SAR stated: "The standard must be able to measure all types of Frequency Response and credit the providers. The current standard does not reflect different types of Frequency Response and the timing of such response." Please add the issue regarding the basis of measuring frequency response performance to this ballot. The SAR for BAL-003-1.1 should specify and require strict parameters for the selection of FRR events used for compliance requirements. This would be similar to the BAL-002 parameters used for DCS event selection.</p>	
Likes	0
Dislikes	0
Response	
<p>Thomas Foltz - AEP - 3,5</p>	
Answer	Yes
Document Name	
Comment	
<p>AEP is not in agreement with the Phase II content of the BAL-003 SAR. AEP suggests the SDT recommend that the content of Phase II SAR for BAL-003 instead be considered for a regional Reliability Standard based on the examples provided in the supporting document "Standards Authorization Request Revision to BAL-003-1.1 Frequency Response and Frequency Bias Setting June 28, 2017", since the other interconnections are not experiencing the issues brought forth.</p>	

Likes 0

Dislikes 0

Response

Casey Johnston - Concerned Electrical Engineer with 40 yrs in Electrical Industry - NA - Not Applicable - NA - Not Applicable

Answer

Yes

Document Name

Comment

The SAR identified several issues regarding the FRM as the sole measure of frequency response performance. The SAR stated: "The standard must be able to measure all types of Frequency Response and credit the providers. The current standard does not reflect different types of Frequency Response and the timing of such response." Please add the issue regarding the basis of measuring frequency response performance to this ballot. The SAR for BAL-003-1.1 should specify and require strict parameters for the selection of FRR events used for compliance requirements. This would be similar to the BAL-002 parameters used for DCS event selection.

In my professional experience, BAL-003-1.1 is the most poorly written and is the only retrospective standard, since the creation of the current NERC Mandatory standard system in 2006. The Standard needs to be rewritten and the deficiencies corrected

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE requests the SDT consider adding language to the standard to address the process for exclusions in Attachment 1, including the entity responsible for granting exclusions and the documentation required (such as corrective action plans) when requesting an exclusion.

Likes 0

Dislikes 0

Response