NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments

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.

All comments submitted can be reviewed in their original format on the project page.

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Senior Director of Standards and Education, Howard Gugel (via email) or at (404) 446-9693.

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.

Based on the responses to this question, the SAR has been revised to review the applicable entities to determine if another entity might be appropriate as having applicability. The Standard Drafting Team will likely focus on determining if an additional requirement might be needed as opposed to replacing any of the current requirements.

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

There was some underlying confusion by commenters in interpreting this question, which deals with the allocation of the Frequency Response Obligation (FRO) among Balancing Authorities (BA) in an Interconnection. The current standard assigns a fixed FRO based on the BAs' share of Interconnection load and generation as determined in the last published FERC 714 data. The NWPP SAR proposes a time varying FRO based on current topology.

Poll tallies for the proposed change were as follows:

- Yes (24). Four of the affirmative responses appeared to misunderstand the question as they state support for a real-time measurement of performance as opposed to the allocation of the FRO.
- No (15)
- No Answer (1)

Those voting for the modification were predominantly from the Western Interconnection. It is recommended the standard drafting team evaluate the feasibility of a time-varying FRO as well as whether the time-varying approach should be applicable to all Interconnections. Those voting against the modification felt that the current FRO allocation works and were concerned with the added complexity to evaluating performance.

Other comments include:

- Behind the meter generation should be factored into a time-varying FRO.
- Evaluation of the time varying FRO should be a later stage effort.

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?

The Industry Segments are:

1 — Transmission Owners

2 — RTOs, ISOs

3 — Load-serving Entities
4 — Transmission-dependent Utilities
5 — Electric Generators
6 — Electricity Brokers, Aggregators, and Marketers
7 — Large Electricity End Users
8 — Small Electricity End Users
9 — Federal, State, Provincial Regulatory or other Government Entities

10 — Regional Reliability Organizations, Regional Entities

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	1,5	Texas RE

						Cooperative, Inc.		
					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 Power Cooperative	1,3	SERC
Duke Energy		1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hils	Duke Energy	1	RF

	Colby Bellville				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
					Laurrie Hammack	Seattle City Light	3	WECC
	Janis Weddle	1,3,5,6		Chelan PUD	Haley Sousa	Public Utility District No. 1	5	WECC

Public Utility District No. 1 of Chelan County						of Chelan County		
					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
	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no Dominion	Guy V. Zito	Northeast Power	10	NPCC

Northeast Power Coordinating Council				NextERA Con-Ed ISO-NE		Coordinating Council		
					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	5	SPP RE

						Electric Cooperative - HCCP		
					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	
Thank you for your comment. The SAR drafting team will recommend the Standard Drafting Team take into consideration these suggestions when evaluating modifications to the standard.	
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

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process, if it is determined that such additions are warranted.

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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
Thank you for your response. The SAR will allow for two phases to be used.	
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	
Thank you for your 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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
Thank you for your 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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
Thank you for your 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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
Thank you for your response. The issues you raised are commercial issues that are outside the scope of the SAR drafting team.	
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	
Thank you for your 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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
Thank you for your 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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	

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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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 contrubute with primary frequency response, which in the Western Interconnection is generally a synchronous generator governor.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted. To the extent that BAL-001-TRE-1 might already address this issue, the Standard Drafting Team will need to determine how the proposed requirement may conflict or coordinate with the regional standard.	
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	

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
Thank you for your 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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted. The revised SAR will also allow for the other issues raised in your response to be reviewed by the Standard Drafting Team.	
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	

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
Angela Gaines - Portland General Electric Co. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
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.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
David Ramkalawan - Ontario Power Generation Inc. – 5	
Answer	Yes
Document Name	
Comment	
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.	

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. 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.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted. In addition, the SAR will allow the Standard Drafting Team to review the allocation methodology.	
Rachel Coyne - Texas Reliability Entity, Inc. – 10	
Answer	Yes
Document Name	
Comment	
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 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	
Thank you for your response and reference to Texas RE documents.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted. The Standard Drafting Team will review the measurement methodology.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted. Finally, a requirement that focuses only on the GO/GOP could cause questions related to other entities being allowed to provide resources that can provide the 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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted. The Standard Drafting team will review the measurement methodologies.	
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	
Thank you for your 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	
Thank you for your affirmative response.	
Mike Smith - Manitoba Hydro - 1,3,5,6, Group Name Manitoba Hydro	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Thank you for your affirmative response.	
John Tolo - Unisource - Tucson Electric Power Co. – 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative 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	
Thank you for your affirmative response.	
Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative 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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	

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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Response	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted. The revised SAR also provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
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.	

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. 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.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies; justification would accompany any modifications.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	

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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	

Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies; justification would accompany any modifications.	
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	
Thank you for your response. The revised SAR will include a phased approach echoing your comments.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	

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	
Thank you for your affirmative response.	
Jeff Rehfeld - NaturEner USA, LLC - 5 – WECC	
Answer	Yes
Document Name	
Comment	
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.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	

sean erickson - Western Area Power Administration - 1,6	
Answer	Yes
Document Name	
Comment	
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.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
David Ramkalawan - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
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.	
Likes 0	

Dislikes 0	
Response	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
Angela Gaines - Portland General Electric Co. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
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.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
Mike Magruder - Avista - Avista Corporation - 1,3,5	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	Yes
Document Name	
Comment	
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 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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies. To the extent that BAL-001-TRE-1 might already address this issue, the Standard Drafting Team will need to determine how the proposed requirement may conflict or coordinate with the regional standard.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	

Antonio Franco - Gridforce Energy Management, LLC - NA - Not Applicable - WECC	
Answer	Yes
Document Name	
Comment	
Griforce 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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	

Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
Thank you for your affirmative 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	
Thank you for your affirmative response.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
John Tolo - Unisource - Tucson Electric Power Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Mike Smith - Manitoba Hydro - 1,3,5,6, Group Name Manitoba Hydro	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative 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	

Thank you for your affirmative 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	
Thank you for your affirmative 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	
Thank you for your response. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	

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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
Thank you for your response. The Standard Drafting Team will review and recommend requirements that may affect other Reliability Standards.	
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	
The SAR drafting team appreciates your comment. The SAR drafting team has combined the two SARs (NERC RS and NW FRSG) and attempted to provide additional clarity of the perceived issues.	
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	
Thank you for your 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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
Thank you for your response. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	

The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The Standard Drafting Team will address the issue of supporting any additional requirements during the drafting process if it is determined that such additions are warranted.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
Thank you for your comment. Please see response provided to AZPS.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	

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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies; justification would accompany any modifications.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
Thank you for your comment.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies; justification would accompany any modifications.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
The SAR drafting team appreciates your comment. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	

The SAR drafting team appreciates your comment and agrees with your response that the commercial and market design considerations are outside the scope of reliability standard. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address additional reliability entities. The revised SAR provides recommendations to the Standard Drafting Team, including the review of measurement and allocation methodologies; justification would accompany any modifications.	
Antonio Franco - Gridforce Energy Management, LLC - NA - Not Applicable – WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Thank you for your affirmative 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	
Thank you for your affirmative response.	
Andrew Gallo - Austin Energy - 1,3,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Mike Smith - Manitoba Hydro - 1,3,5,6, Group Name Manitoba Hydro	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
David Ramkalawan - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	

John Tolo - Unisource - Tucson Electric Power Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative 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.

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.

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

The SAR drafting team appreciates your comment. Although the revised SAR does address potential reliability issues, it does not address purely commercial issues.

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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed and allows a phased approach to addressing modifications to the existing standard.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether modification is necessary to revise the measurement and allocation methodology.	
Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators	
Answer	Yes
Document Name	
Comment	

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	
Thank you for your comments. The SAR drafting team has revised the SAR to identify issues to be addressed. The Revised SAR attempts to address issues to Attachment A and how they will be addressed going forward. The standard drafting team will address definitions as needed.	
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 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.	
Likes 0	
Dislikes 0	
Response	

Thank you for your response. The revised SAR will allow the Standard Drafting Team address changes required in the original SAR and to review whether another requirement or standard is needed and allows a phased approach to addressing modifications to the existing standard.	
sean erickson - Western Area Power Administration - 1,6	
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. 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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether modification is necessary to revise the measurement and allocation methodology.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether modification is necessary to revise the measurement and allocation methodology and undue complexity will be a consideration.	
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

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review/revise the measurement and allocation methodology.

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	
Thank you for your comment.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether a regional variance, requirement or standard is needed and allow a phased approach to addressing modifications to the existing standard.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether modification is necessary to revise the measurement and allocation methodology.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether modification is necessary to revise the measurement and allocation methodology.	
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	

Thank you for your response. The revised SAR will allow the Standard Drafting Team address changes required in the original SAR and to review whether another requirement or standard is needed and allows a phased approach to addressing modifications to the existing standard.

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
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to revise the measurement and allocation methodology.

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

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed and allow a phased approach to addressing modifications to the existing standard.

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

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed and allow a phased approach to addressing modifications to the existing standard.

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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed and allow a phased approach to addressing modifications to the existing standard.	
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	

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed and allow a phased approach to addressing modifications to the existing standard.	
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	
SDT appreciates your comment and disagrees with the premise of market issues and asserts that the current BAL-003-1.1 standard is a reliability standard and commercial issues are outside the scope of the current standard.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address other entities and to review/revise the measurement methodology.	
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	

Thank you for your response. The revised SAR will allow the Standard Drafting Team address changes required in the original SAR and to review whether inclusion of additional applicable entities is warranted and allows a phased approach to addressing modifications to the existing standard.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether modification is necessary to revise the measurement and allocation methodology.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review/revise the measurement methodology.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address other entities and to review/revise the measurement methodology.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review/revise the measurement methodology.	
Antonio Franco - Gridforce Energy Management, LLC - NA - Not Applicable - WECC	
Answer	Yes
Document Name	
Comment	
Gridrforce 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 prividing to arrest and stabilize system frequency.	
Likes 0	
Dislikes 0	
Response	

Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address other entities and to review/revise the measurement methodology.	
Theresa Rakowsky - Puget Sound Energy, Inc. - 1,3,5	
Answer	Yes
Document Name	
Comment	
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.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether another requirement or standard is needed to address other entities.	
Dori Quam - NorthWestern Energy - 1 - 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." 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.	

Likes 0	
Dislikes 0	
Response	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether modification is necessary to revise the measurement and allocation methodology.	
Thomas Foltz - AEP - 3,5	
Answer	Yes
Document Name	
Comment	
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.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether a regional variance, requirement or standard is needed and allow a phased approach to addressing modifications to the existing standard.	
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	
Thank you for your response. The revised SAR will allow the Standard Drafting Team to review whether modification is necessary to revise the measurement and allocation methodology.	
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	

Thank you for your comment. The SAR drafting team will recommend the STD take your comment into consideration during the drafting phase of this project.