

Consideration of Comments

Project Name:	2017-01 Modifications to BAL-003-1.1
Comment Period Start Date:	12/4/2018
Comment Period End Date:	1/17/2019
Associated Ballots:	2017-01 Modifications to BAL-003-1.1 BAL-003-2 IN 1 ST 2017-01 Modifications to BAL-003-1.1 BAL-003-2 Non-Binding Poll IN 1 NB 2017-01 Modifications to BAL-003-1.1 Implementation Plan IN 1 OT

There were 23 sets of responses, including comments from approximately 93 different people from approximately 69 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 Engineering and Standards, [Howard Gugel](#) (via email) or at (404) 446-9693.

Questions

[1. The SDT proposes to replace Resource Contingency Criteria \(RCC\) with the Resource Loss Protection Criteria \(RLPC\). This criterion will be applied consistently across all Interconnections, and is designed to produce adequate reliability for each Interconnection. The RLPC determination methodology is detailed for this posting in the Resource Loss Protection Criteria Section of the Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard document and further in the Resource Loss Protection Criteria document. Is this methodology appropriate for determining the magnitude of the resource loss events that each Interconnection should protect against to assure an adequate level of reliability? If not, please provide an alternative proposal and any comments to the Resource Loss Protection Criteria document, which has been revised based on industry comment.](#)

Summary Responses:

The SDT received comments regarding the description of the RLPC in the first bullet of Chapter 3 of the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard*. The commenters questioned the intent of two events that are caused by a single contingency, which would be an N-2. The SDT agreed with the comments made and has modified the language to address the comments received. The bullet now states: “The two largest independent Balancing Contingency Events, each due to a single contingency identified using system models measured by megawatt loss in a normal system configuration (N-0). (An abnormal system configuration is not used to determine the RLPC.)”

The SDT received comments regarding the proposed methodology may not produce consistent results, but does appear to provide a reasonable margin to reduce the potential for triggering UFLS operation due to insufficient frequency response. The comments suggested that the proposed methodology is based-on (as well as highly dependent-on) the current resource mix and configuration. The SDT agrees with the potential concern. Phase II of Project 2017-01 will be evaluating the IFRO methodology and allocation thereof.

The SDT received the comment regarding Page 1 of the RLPC document containing the statement: “The MSSC calculation is done in Real-time operations based on actual system configuration.” The commenter suggested deleting this statement. The RLPC document is a supporting document during development of Phase I. The SDT will address this issue in the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard*.

2. The SDT proposes fixing IFROs for a period that will continue until Phase 2 of the Project 2017-01 is completed. Do you agree with keeping IFROs as scheduled in Attachment A during the remainder of Project 2017-01? If you do not agree, please provide an alternative. Or, if you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Summary Responses:

The SDT received comments on the newly proposed methodology for IFRO, commenting if it would only be valid to apply until after Phase Two is completed. It was also suggested that leaving the currently-determined values based on the proposed methodology out of the actual standard since all of the contributing elements are subject to change based on the procedure and could quickly become inaccurate. It may be more appropriate to publish the currently determined values in the procedure, which can be updated often as necessary, and not in the standard. In response, the SDT modified the RLPC to provide a bridge until Phase II can evaluate the IFRO methodology in its entirety. The response by the SDT is that BAL-003-2 proposes revisions to *Standard BAL-003-1.1 – Frequency Response and Frequency Bias Setting* that would modify how the IFROs will be determined. NERC staff conducted a study to validate the proposed methodology and will file the study report with FERC. The study report will describe the proposed changes to the method of determining the RLPCs and will outline how those proposed changes would be reflected in the IFROs and how those revised IFROs were tested to assure that those levels of response are adequate to protect the Interconnection. The SDT found the results of the study to be sufficient.

The ERO, in consultation with regional representatives, has established a target reliability criterion for each Interconnection called the Interconnection Frequency Response Obligation (IFRO). Preliminary values are provided below. Certain values are assessed annually according to the methodology which is detailed in the [Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard](#). The SDT has updated the IFRO values in the Table in Attachment A, and the MDF values reflect those used in the Table 2.4 of the 2017 FRAA report. The SDT disagrees that the IFRO would need to revert back to the previous value if the Interconnection FRM declines by more than 10%. The SDT believes there is sufficient margin for the near term, but will continue to evaluate this issue in Phase II.

The SDT believes the existing studies and the 2017 FRAA informational filing to FERC clearly demonstrate the sufficiency of frequency response in the Interconnection in the event of a MW loss on the level of the RLPC. Nevertheless, NERC will continue to assess the IFRO in the FRAA under the constructs of the proposed BAL-003-2 standard. The SDT will continue to review this as part of Phase II.

The SDT received a comment of agreement in regards to fixing the IFROs in Attachment A during the remainder of Project 2017-01, assuming the SDT is talking about the minor changes that arise from NERC's annual frequency analysis, and not that the SDT is precluding the three step change in the East's IFRO. In response, the SDT noted that it is not precluding the three-step change.

A comment received recommend that the Drafting Team specify that IFROs will be as shown in **Table 1** of Attachment A; and that Table 1 should specify the applicable OY for the changes in EI IFRO, rather than the "First, Second, and Final Steps." Due to the process under which NERC operates, the SDT has updated the language to "First-step target IFRO, Second-step target IFRO, and Final target IFRO."

3. The SDT is proposing to move items not related to entity compliance from BAL-003-1.1, Attachment A to the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* document. Changes to this document will be subject to approval by the NERC Board of Trustees and informational filing to FERC. Do you agree that the SDT's proposed changes are appropriate? If not, please provide an alternative. Or, if you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Summary Responses:

ERCOT: The SDT updated Table 1.1 in the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* document for the ERCOT Interconnection. ERCOT presented this update to Table 1.1 at a public meeting of the Resources Subcommittee, conducted on April 20, 2019. No concerns were raised by the Reliability Subcommittee. The updated Table 1.1 for the ERCOT Interconnection captures at least minimum 20 events each annually, using the current Event Selection criteria in 2018 for ERCOT resulted in selection of only five events.

A comment was received that, while beneficial, the procedure document is not sufficiently complete to be considered a procedure. For completeness' sake, the document should contain a revision record, a section covering rolls and responsibilities, and a section describing the methods that should be used to limit the reduction of IFRO. While the commenter agreed with keeping the document outside the defined process for standards development and balloting, they noted that there should still be a rigorous mechanism for when changes are developed, proposed, and potentially adopted.

The SDT will pass your comment on to NERC staff for them to decide the changes in formatting for the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard*. The SDT has recommended that a version number and date for the document be added. The SDT agrees that the Event Selection Process will be reviewed in Phase II.

A commenter agreed with the moving of these administrative items from the standard to the procedure, but asks the SDT to provide clarity on whether Form 2s are also required to be submitted; and, if so, to include that in the procedure. In response, the SDT refers the commenter to Attachment A of the standard (Page 13), as it states: “All events listed on FRS Form 1 need to be included in the annual submission of FRS Forms 1 and 2.” Since the IFRO directly impacts an entity’s compliance obligation, the drafting team recommends that it stay in Attachment A.

A commenter recommended that the Event Selection Criteria include a consideration for load level at the time of the event; that load provides a frequency response benefit that is proportional to the amount and type of load on-line at the time of the event. Therefore, events occurring during light load realize less of this benefit, and such events will exhibit greater volatility in frequency excursions. Selection of too many events during low load periods can skew the results, which will not provide the most accurate view of an interconnection’s “normal” FR capability. In response, the SDT, based on the data reviewed, determined that the events occurring during lower load times in an interconnection are the events that could potentially be more of a risk to reliability. Therefore, the process proposed is silent on the mix of events to be used for the compliance calculation. Instead, the main driver of the list is the depth of the frequency excursion rather than trying to find events in a particular part of the day/week/season.

[4. Please provide any additional comments for the SDT to consider that have not already been provided in the questions above.](#)

Summary Responses: A comment received stated that the original SAR that brought about the SDT discussed the need for application of governor standards to the GO’s. In its Notice of Proposed Rulemaking (NOPR) on Primary Frequency Response (Docket No. RM16-6-000), FERC stated that proposed modifications to Generator Interconnection Agreements for both large and small generating facilities (both synchronous and non-synchronous) would require new generators to install, maintain, and operate equipment capable of providing primary frequency response as a condition of interconnection. FERC recognized that “[w]hile NERC Reliability Standard BAL-003-1.1 establishes requirements for balancing authorities, it does not include any requirements for individual generator owners or operators,” and that “[w]hen considered in aggregate, the primary frequency response provided by generators within an Interconnection has a significant impact on the overall frequency response.” The commenter requested to see additional information from the SDT on why this FERC-identified, and SAR objective, is not currently being addressed in either Phase of the revisions to BAL-003.

In response, the SAR approved by the Standards Committee, under which this drafting team is working, states in the second bullet under Phase II “Although Balancing Authorities (BAs) and FRSGs are responsible for coordination and/or management of Frequency Response from both resources and loads, response from resources is not addressed. The review should determine if additional reliability entities should have responsibility (e.g., Generator Operators (GOPs)) for provision of generator governor response; and...” Therefore, the SDT will discuss and

potentially recommend additional requirements in the future related to other entities. The SDT adds that it is unlikely to recommend removing the existing requirement related to BAs and FRSGs due to the reasoning stated in the SAR. Future postings for comments related to BAL-003 will allow for industry feedback on this issue.

One commenter stated that the Frequency Response Standard Background Document goes beyond explaining “the rationale and considerations for the Requirements of this standard and their associated compliance information.” That, as written, the Background Document promotes the concept of frequency responsive reserves, as detailed in the Good Practices and Tools section.

The SDT posted the Background Document (which was drafted in 2012) as part of developing BAL-003-1 for reference only. This drafting team is not proposing any changes to that document.

A comment was received that Table 1 of the proposed standard reflects a value of 120MW as “Credit for Load Resources” for the Western Interconnection and suggested that this number be validated as accurate at this point in time. In response, the SDT has removed the Credit for Load Resources (CLR) in the Western Interconnection.

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
Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hills	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
MRO	Dana Klem	1,2,3,4,5,6	MRO	MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
					Larry Heckert	Alliant Energy	4	MRO
					Amy Casucelli	Xcel Energy	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jodi Jensen	Western Area Power Administration	1,6	MRO
					Kayleigh Wilkerson	Lincoln Electric System	1,3,5,6	MRO
					Mahmood Safi	Omaha Public Power District	1,3,5,6	MRO
					Brad Parret	Minnesota Power	1,5	MRO
					Terry Harbour	MidAmerican Energy Company	1,3	MRO

					Tom Breene	Wisconsin Public Service Corporation	3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1	MRO
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Mike Morrow	Midcontinent ISO	2	MRO
PPL - Louisville Gas and Electric Co.	Devin Shines	3,5,6	RF,SERC	Louisville Gas and Electric Company and Kentucky Utilities Company	Charles Freibert	PPL - Louisville Gas and Electric Co.	3	SERC
					JULIE HOSTRANDER	PPL - Louisville Gas and Electric Co.	5	SERC
					Linn Oelker	PPL - Louisville Gas and Electric Co.	6	SERC
Southwest Power Pool, Inc. (RTO)	Jim Williams	2	MRO,SERC	SPP Standards Review Group	Jim Williams	SPP	2	MRO
					Shannon Mickens	SPP	2	MRO
ACES Power Marketing	Jodirah Green	6	NA - Not Applicable	ACES Standard Collaborations	John Shaver	Arizona Electric Power Cooperative, Inc.	1	WECC

					Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	SERC
					Greg Froehling	Rayburn Country Electric Cooperative, Inc.	3,6	Texas RE
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Jenny Knernschild	Old Dominion Electric Cooperative	3,4	SERC
DTE Energy - Detroit Edison Company	Karie Barczak	3		DTE Energy - DTE Electric	Jeffrey Depriest	DTE Energy - DTE Electric	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
PJM Interconnection, L.L.C.	Mark Holman	2		SRC	Brandon Gleason	Electric Reliability Council of Texas, Inc.	2	Texas RE
					Charles Yeung	Southwest Power Pool, Inc. (RTO)	2	SERC

					Ali Miremadi	California ISO	2	WECC
					Helen Laines	Independent Electric System Operator	2	NPCC
					Kathleen Goodman	ISO New England	2	NPCC
					Mark Holman	PJM Interconnection	2	RF
					Terry Bilke	Midcontinent Independent System Operator	2	RF
					Gregory Campoli	New York Independent System Operator	2	NPCC
Manitoba Hydro	Mike Smith	1		Manitoba Hydro	Yuguang Xiao	Manitoba Hydro	5	MRO
					Karim Abdel-Hadi	Manitoba Hydro	3	MRO
					Blair Mukanik	Manitoba Hydro	6	MRO
					Mike Smith	Manitoba Hydro	1	MRO
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no Dominion	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC

Glen Smith	Entergy Services	4	NPCC
Brian Robinson	Utility Services	5	NPCC
Alan Adamson	New York State Reliability Council	7	NPCC
David Burke	Orange & Rockland Utilities	3	NPCC
Michele Tondalo	UI	1	NPCC
Helen Lainis	IESO	2	NPCC
Michael Jones	National Grid	3	NPCC
Sean Cavote	PSEG	4	NPCC
Kathleen Goodman	ISO-NE	2	NPCC
David Kiguel	Independent	NA - Not Applicable	NPCC
Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	6	NPCC
Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
Gregory Campoli	New York Independent System Operator	2	NPCC
Caroline Dupuis	Hydro Quebec	1	NPCC

Chantal Mazza	Hydro Quebec	2	NPCC
Michael Forte	Con Edison	1	NPCC
Laura McLeod	NB Power Corporation	5	NPCC
Nick	Kowalczyk	1	NPCC
Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
John Hastings	National Grid	1	NPCC
Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
Sofia Gadea-Omelchenko	Con Edison	5	NPCC
Joel Charlebois	AESI - Acumen Engineered Solutions International Inc.	5	NPCC
Quintin Lee	Eversource Energy	1	NPCC
Mike Cooke	Ontario Power Generation, Inc.	4	NPCC
Salvatore Spagnolo	New York Power Authority	1	NPCC

					Shivaz Chopra	New York Power Authority	5		NPCC
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1. The SDT proposes to replace Resource Contingency Criteria (RCC) with the Resource Loss Protection Criteria (RLPC). This criterion will be applied consistently across all Interconnections, and is designed to produce adequate reliability for each Interconnection. The RLPC determination methodology is detailed for this posting in the *Resource Loss Protection Criteria* Section of the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* document and further in the *Resource Loss Protection Criteria* document. Is this methodology appropriate for determining the magnitude of the resource loss events that each Interconnection should protect against to assure an adequate level of reliability? If not, please provide an alternative proposal and any comments to the *Resource Loss Protection Criteria* document, which has been revised based on industry comment.

Summary Responses:

The SDT received comments regarding the description of the RLPC in the first bullet of Chapter 3 of the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard*. The commenters questioned the intent of two events that are caused by a single contingency, which would be an N-2. The SDT agreed with the comments made and has modified the language to address the comments received. The bullet now states: “The two largest independent Balancing Contingency Events, each due to a single contingency identified using system models measured by megawatt loss in a normal system configuration (N-0). (An abnormal system configuration is not used to determine the RLPC.)”

The SDT received comments regarding the proposed methodology may not produce consistent results, but does appear to provide a reasonable margin to reduce the potential for triggering UFLS operation due to insufficient frequency response. The comments suggested that the proposed methodology is based-on (as well as highly dependent-on) the current resource mix and configuration. The SDT agrees with the potential concern. Phase II of Project 2017-01 will be evaluating the IFRO methodology and allocation thereof.

The SDT received the comment regarding Page 1 of the RLPC document containing the statement: “The MSSC calculation is done in Real-time operations based on actual system configuration.” The commenter suggested deleting this statement. The RLPC document is a supporting document during development of Phase I. The SDT will address this issue in the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard*.

Michelle Amarantos - APS - Arizona Public Service Co. - 1

Answer	No
Document Name	
Comment	
<p>AZPS appreciates the changes that were made that largely address our concerns and many others in the industry. AZPS now largely supports the RLPC with one important distinction. We believe the description of the RLPC is inaccurately described in the first bullet of Chapter 3 of the <i>Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard</i>.</p> <p>“The two largest Balancing Contingency Events due to a single contingency identified using system models in terms of loss measured by megawatt loss in a normal system configuration (N-0). (An abnormal system configuration is not used to determine the RLPC.) ”</p> <p>We do not believe the intent is two events that are caused by a single contingency, which would be an N-2. Perhaps a better way to state what is intended is the language used in the proposed BAL-003-2, “the two largest potential Balancing Contingency Events that exist within a Balancing Authority identified using system models in terms of loss measured by megawatt loss in a normal system configuration (N-0). (An abnormal system configuration is not used to determine the RLPC.)”</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your comment. The SDT has modified the language to address your comment: “The two largest independent Balancing Contingency Events, each due to a single contingency, identified using system models measured by megawatt loss in a normal system configuration (N-0). (An abnormal system configuration is not used to determine the RLPC.)”</p>	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	

The proposed methodology does appear to produce consistent results; however it represents a resource loss that may not actually manifest itself in practice. It does appear to provide a reasonable margin to reduce the potential for triggering UFLS operation due to insufficient frequency response. We appreciate the efforts of the SDT, however we believe it needs to be recognized that the proposed methodology is based-on (as well as highly dependent-on) the current resource mix and configuration.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT agrees with the potential concern. Phase II will be evaluating the IFRO methodology and allocation thereof.

Richard Vine - California ISO - 2

Answer

Yes

Document Name

Comment

The California ISO supports the comments of the ISO/RTO Council Standards Review Committee (SRC) and has one additional comment under item 4 below.

Likes 0

Dislikes 0

Response

Thank you for your support.

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

Answer

Yes

Document Name

Comment

BPA supports replacing the Resource Contingency Criteria (RCC) with the Resource Loss Protection Criteria (RLPC). BPA agrees this methodology is appropriate for determining the magnitude of the resource loss events that each Interconnection should protect against to assure an adequate level of reliability.

BPA suggests that the SDT review the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* to ensure that the language regarding RLPC matches the *Resource Loss Protection Criteria* document.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT has reviewed the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* and verified that the appropriate language is there.

Devin Shines - PPL - Louisville Gas and Electric Co. - 3,5,6 - SERC, Group Name Louisville Gas and Electric Company and Kentucky Utilities Company

Answer

Yes

Document Name

Comment

Louisville Gas and Electric Company and Kentucky Utilities Company (LG&E/KU) generally agree with the proposed methodology. However, Page 1 of the RLPC document contains the statement: “The MSSC calculation is done in Real-time operations based on actual system configuration.” However, not every BA or RSG determines MSSC in real time – many do not. We recommend the SDT delete this statement for accuracy.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT will address this in the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard*.

Jodirah Green - ACES Power Marketing - 6, Group Name ACES Standard Collaborations

Answer Yes

Document Name

Comment

We believe replacing the RCC with the RLPC will bring consistency across all interconnections and will eliminate the need of having a higher expectation from the Eastern Interconnection. Additionally, revising the verbiage associated with the MSSC, as one the basis for IFRO, has improved the overall technicality of the RPLC.

Likes 0

Dislikes 0

Response

Thank you for your support.

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - WECC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your support.

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

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your support.

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your support.

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

Answer Yes

Document Name

Comment

Likes	0
Dislikes	0
Response	
Thank you for your support.	
Mark Holman - PJM Interconnection, L.L.C. - 2, Group Name SRC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Ozan Ferrin - Tacoma Public Utilities (Tacoma, WA) - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Diana Torres - Imperial Irrigation District - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Thank you for your support.	
Mike Smith - Manitoba Hydro - 1, Group Name Manitoba Hydro	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Westar Energy, 6, 3, 1, 5; Bryan Taggart, Westar Energy, 6, 3, 1, 5; Derek Brown, Westar Energy, 6, 3, 1, 5; Grant Wilkerson, Westar Energy, 6, 3, 1, 5; Harold Wyble, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; James McBee, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; Jennifer Flandermeyer, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; John Carlson, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; - Douglas Webb	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no Dominion	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jim Williams - Southwest Power Pool, Inc. (RTO) - 2 - MRO, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

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The ERO, in consultation with regional representatives, has established a target reliability criterion for each Interconnection called the Interconnection Frequency Response Obligation (IFRO). Preliminary values are provided below. Certain values are assessed annually according to the methodology which is detailed in the [Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard](#). The SDT has updated the IFRO values in the Table in Attachment A, and the MDF values reflect those used in the Table 2.4 of the 2017 FRAA report. The SDT disagrees that the IFRO would need to revert back to the previous value if the Interconnection FRM declines by more than 10%. The SDT believes there is sufficient margin for the near term, but will continue to evaluate this issue in Phase II.

The SDT believes the existing studies and the 2017 FRAA informational filing to FERC clearly demonstrate the sufficiency of frequency response in the Interconnection in the event of a MW loss on the level of the RLPC. Nevertheless, NERC will continue to assess the IFRO in the FRAA under the constructs of the proposed BAL-003-2 standard. The SDT will continue to review this as part of Phase II.

The SDT received a comment of agreement in regards to fixing the IFROs in Attachment A during the remainder of Project 2017-01, assuming the SDT is talking about the minor changes that arise from NERC’s annual frequency analysis, and not that the SDT is precluding the three step change in the East’s IFRO. In response, the SDT noted that it is not precluding the three-step change.

A comment received recommend that the Drafting Team specify that IFROs will be as shown in **Table 1** of Attachment A; and that Table 1 should specify the applicable OY for the changes in EI IFRO, rather than the “First, Second, and Final Steps.” Due to the process under which NERC operates, the SDT has updated the language to “First-step target IFRO, Second-step target IFRO, and Final target IFRO.”

Michelle Amarantos - APS - Arizona Public Service Co. - 1

Answer	No
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Document Name	
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Comment

AZPS questions the logic that the newly proposed methodology for IFRO would only be valid to apply this one time until after Phase Two is completed. If it is believed that this IFRO methodology is technically valid, then it should be valid until an approved alternative is determined and approved. AZPS would also suggest leaving the currently determined values based on this methodology out of the actual standard since all of the contributing elements are subject to change based on the procedure and could quickly become inaccurate. It may be more appropriate to publish the currently determined values in the procedure, which can be updated often as necessary, and not in the standard.

Likes	0
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Dislikes	0
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Response

Thank you for your comment. The SDT modified the RLPC to provide a bridge until Phase II can evaluate the IFRO methodology in its entirety. The response by the SDT is that BAL-003-2 proposes revisions to *Standard BAL-003-1.1 – Frequency Response and Frequency Bias Setting* that would modify how the IFROs will be determined. NERC staff conducted a study to validate the proposed methodology and will file the study report with FERC. The study report will describe the proposed changes to the method of determining the RLPCs and will outline how those

proposed changes would be reflected in the IFROs and how those revised IFROs were tested to assure that those levels of response are adequate to protect the Interconnection. The SDT found the results of the study to be sufficient.

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

Answer

No

Document Name

Comment

There are several reasons that BPA cannot agree with keeping IFROs as scheduled in the revised Attachment A during the remainder of Project 2017-01.

- - The IFRO First Step for the Western Interconnection includes a Load Credit of 120 MW. There is no Load Credit for a PDCI RAS event.

Alternative approach: BPA asks that the First Step for WECC be recalculated without the Load Credit applied.

- - It is apparent that the First Step IFRO in the BAL-003 redline was calculated as $(RLPC - Load\ Credit) / 10 * MDF$

However, it is not apparent how the Max Delta Frequency (MDF) was determined since the tables with subcomponents such as the CBR (C to B ratio) are missing from the standard or a supporting document. The standard does say: “Detailed descriptions of the calculations used in Table 1 below are defined in the Procedure for *ERO Support of Frequency Response and Frequency Bias Setting Standard*.” But the *ERO Support of Frequency Response and Frequency Bias Setting Standard* does not detail at all how the calculations used in Table 1 are defined, because the calculations were removed from that document.

Alternative approach: BPA recommends that the methodology for determining IFRO and MDF be detailed in Attachment A and that Table 1 be moved to a NERC document that can be updated yearly. The IFRO and MDF are key components of the current standard and the methodology

for calculating it must be in Attachment A so that it cannot change without industry vote and FERC approval. BPA supports a change in the IFRO methodology through Phase II of Project 2017-01, at which point Attachment A should be updated.

- - The revised standard states that “**To reduce risk, the Eastern Interconnection IFRO will be stepped down annually from the 2017 value of -1,015 MW/0.1 Hz in -100 MW/0.1 Hz increments. If during the step down process, Interconnection Frequency Response Measure (FRM) declines by more than 10% percent, the ERO will halt the reduction in IFRO until such times that a determination can be made as to the cause of the degradation.”

BPA believes that this is not adequate for reliability.

Alternative approach: BPA recommends that if the Interconnection Frequency Response Measure (FRM) declines by more than 10% percent, the ERO raise the IFRO back to the previous step.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT has removed the Credit for Load Resources (CLR) in the Western Interconnection. For Phase I, the SDT set a fixed MDF to provide a bridge until Phase II can evaluate the IFRO methodology in its entirety. The SDT has updated the IFRO values in the Table in Attachment A, and the MDF values reflect those used in the Table 2.4 of the 2017 FRAA report. The SDT modified the RLPC to provide a bridge until Phase II can evaluate the IFRO methodology in its entirety. The response by the SDT is that BAL-003-2 proposes revisions to *Standard BAL-003-1.1 – Frequency Response and Frequency Bias Setting* that would modify how the IFROs will be determined. NERC staff conducted a study to validate the proposed methodology and will file the study report with FERC. The study report will describe the proposed changes to the method of determining the RLPCs and will outline how those proposed changes would be reflected in the IFROs and how those revised IFROs were tested to assure that those levels of response are adequate to protect the Interconnection. The SDT found the results of the study to be sufficient.

The SDT disagrees that the IFRO would need to revert back to the previous value if the Interconnection FRM declines by more than 10%. The SDT believes there is sufficient margin for the near term, but will continue to evaluate this issue in Phase II.

Jim Williams - Southwest Power Pool, Inc. (RTO) - 2 - MRO, Group Name SPP Standards Review Group

Answer Yes

Document Name

Comment

The SPP Standards Review Group (“SSRG”) agrees with the proposal to fix the IFRO while the drafting team works on Phase 2. The 2017 FRAA dynamics study and subsequent filing to FERC confirmed the -1,015 MW/0.1Hz IFRO value to be the reliability limit. Without another dynamics study, we do not support the lowering of the IFRO to the values listed in Attachment A. Additionally, the issue may not be the actual determination of the RLPC, but rather how the IFRO is calculated (considering that formula results in an IFRO recommendation below previously established limits).

Likes 0

Dislikes 0

Response

Thank you for your comment. BAL-003-2 proposes revisions to *Standard BAL-003-1.1 – Frequency Response and Frequency Bias Setting* that would modify how the IFROs will be determined. NERC staff conducted a study to validate the proposed methodology and will file the study report with FERC. The study report will describe the proposed changes to the method of determining the RLPCs and will outline how those proposed changes would be reflected in the IFROs and how those revised IFROs were tested to assure that those levels of response are adequate to protect the Interconnection. The SDT found the results of the study to be sufficient. The SDT will continue to review this as part of Phase II.

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer Yes

Document Name

Comment

The MRO NSRF agrees with fixing the IFROs in Attachment A during the remainder of Project 2017-01 assuming the SDT is talking about the minor changes that arise from NERC’s annual frequency analysis, and not that the SDT is precluding the three step change in the East’s IFRO.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT is not precluding the three-step change.

Devin Shines - PPL - Louisville Gas and Electric Co. - 3,5,6 - SERC, Group Name Louisville Gas and Electric Company and Kentucky Utilities Company

Answer Yes

Document Name

Comment

LG&E/KU agrees with keeping IFROs as scheduled in Attachment A, but we recommend the Drafting Team specify that IFROs will be as shown in **Table 1** of Attachment A. Additionally, Table 1 should specify the applicable OY for the changes in EI IFRO, rather than the “First, Second, and Final Steps.”

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT has updated the language to “First-step target IFRO, Second-step target IFRO, and Final target IFRO.” These values are evaluated annually for changes in each Interconnection. To reduce risk, the Eastern Interconnection IFRO will be stepped down annually from the 2017 value of -1,015 MW/0.1 Hz in -100 MW/0.1 Hz increments. If during the step down process, Interconnection Frequency Response Measure (FRM) declines by more than 10 percent, the ERO will halt the reduction in IFRO until such time that a determination can be made as to the cause of the degradation.

Mark Holman - PJM Interconnection, L.L.C. - 2, Group Name SRC

Answer Yes

Document Name

Comment

The SRC agrees with fixing the IFROs in Attachment A during the remainder of Project 2017-01 assuming the SDT is talking about the minor changes that arise from NERC’s annual frequency analysis, and not that the SDT is precluding the three step change in the East’s IFRO.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT is not precluding the three-step change.

Richard Vine - California ISO - 2

Answer Yes

Document Name

Comment

The California ISO supports the comments of the ISO/RTO Council Standards Review Committee (SRC) and has one additional comment under item 4 below.

Likes 0

Dislikes 0

Response

Thank you for your support.

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jodirah Green - ACES Power Marketing - 6, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Thank you for your support.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no Dominion	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Westar Energy, 6, 3, 1, 5; Bryan Taggart, Westar Energy, 6, 3, 1, 5; Derek Brown, Westar Energy, 6, 3, 1, 5; Grant Wilkerson, Westar Energy, 6, 3, 1, 5; Harold Wyble, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; James McBee, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; Jennifer Flandermeyer, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; John Carlson, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; - Douglas Webb	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your support.	

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

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your support.

Mike Smith - Manitoba Hydro - 1, Group Name Manitoba Hydro

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your support.

Diana Torres - Imperial Irrigation District - 1,3,5,6

Answer Yes

Document Name

Comment

Likes	0
Dislikes	0
Response	
Thank you for your support.	
Ozan Ferrin - Tacoma Public Utilities (Tacoma, WA) - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Thank you for your support.	
Neil Swearingen - Salt River Project - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - WECC	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

3. The SDT is proposing to move items not related to entity compliance from BAL-003-1.1, Attachment A to the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* document. Changes to this document will be subject to approval by the NERC Board of Trustees and informational filing to FERC. Do you agree that the SDT’s proposed changes are appropriate? If not, please provide an alternative. Or, if you agree but have comments or suggestions on the SDT’s recommendation, please provide your explanation and suggested language.

Summary Responses:

The SDT updated Table 1.1 in the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* document for the ERCOT Interconnection. ERCOT presented this update to Table 1.1 at a public meeting of the Resources Subcommittee, conducted on April 20, 2019. No concerns were raised by the Reliability Subcommittee. The updated Table 1.1 for the ERCOT Interconnection captures at least minimum 20 events each annually, using the current Event Selection criteria in 2018 for ERCOT resulted in selection of only five events.

A comment was received that, while beneficial, the procedure document is not sufficiently complete to be considered a procedure. For completeness’ sake, the document should contain a revision record, a section covering rolls and responsibilities, and a section describing the methods that should be used to limit the reduction of IFRO. While the commenter agreed with keeping the document outside the defined process for standards development and balloting, they noted that there should still be a rigorous mechanism for when changes are developed, proposed, and potentially adopted.

The SDT will pass your comment on to NERC staff for them to decide the changes in formatting for the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard*. The SDT has recommended that a version number and date for the document be added. The SDT agrees that the Event Selection Process will be reviewed in Phase II.

A commenter agreed with the moving of these administrative items from the standard to the procedure, but asks the SDT to provide clarity on whether Form 2s are also required to be submitted; and, if so, to include that in the procedure. In response, the SDT refers the commenter to Attachment A of the standard (Page 13), as it states: “All events listed on FRS Form 1 need to be included in the annual submission of FRS Forms 1 and 2.” Since the IFRO directly impacts an entity’s compliance obligation, the drafting team recommends that it stay in Attachment A.

A commenter recommended that the Event Selection Criteria include a consideration for load level at the time of the event; that load provides a frequency response benefit that is proportional to the amount and type of load on-line at the time of the event. Therefore, events occurring during light load realize less of this benefit, and such events will exhibit greater volatility in frequency excursions. Selection of too many events during low load periods can skew the results, which will not provide the most accurate view of an interconnection’s “normal” FR capability. In response, the SDT, based on the data reviewed, determined that the events occurring during lower load times in an interconnection are the events that could potentially be more of a risk to reliability. Therefore, the process proposed is silent on the mix of events to be used for the compliance calculation. Instead, the main driver of the list is the depth of the frequency excursion rather than trying to find events in a particular part of the day/week/season.

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

Answer	No
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Document Name	
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Comment

BPA believes that the IFRO and MDF calculation methodology should be established and detailed in Attachment A so that it is transparent to all parties. The Table 1 of values, that can change yearly, should be moved to another NERC document that is not subject to the NERC standard development process. Any subsequent IFRO and MDF calculation methodology as determined in Phase II of Project 2017-01 should also reside in Attachment A.

Likes	0
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Dislikes	0
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Response

Thank you for your comment. The SDT believes that the modifications made are appropriate for Phase I.

Thomas Foltz - AEP - 5

Answer	Yes
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Document Name	
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Comment

While beneficial, the procedure document is not sufficiently complete to be considered a procedure. For completeness' sake, the document should contain a revision record, a section covering rolls and responsibilities, and a section describing the methods that should be used to limit the reduction of IFRO. While we agree with keeping the document outside the defined process for standards development and balloting, we believe there should still be a rigorous mechanism for when changes are developed, proposed, and potentially adopted.

More specificity is needed in "Chapter 1: Event Selection Process", as it is not clear what criteria is to be used going forward. The statistical relevance driver used results in a large portion of events selected for the EI, where neither the BAs nor the GO/GOP has had any appreciable influence on frequency response.

Our comments in this section notwithstanding, we acknowledge that our concerns may eventually be addressed as part of Phase 2.

Likes	0
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Dislikes	0
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Response

Thank you for your comments. The SDT will pass your comment on to NERC staff for them to decide the changes in formatting for the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard*. The SDT will pass your comment on to NERC staff for them to decide the changes in formatting for the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard*. The SDT has recommended that a version number and date for the document be added. The SDT agrees that the Event Selection Process will be reviewed in Phase II.

Richard Vine - California ISO - 2

Answer	Yes
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Document Name	
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Comment

The California ISO supports the comments of the ISO/RTO Council Standards Review Committee (SRC) and has one additional comment under item 4 below.

Likes	0
Dislikes	0
Response	
Thank you for your support.	
Michelle Amarantos - APS - Arizona Public Service Co. - 1	
Answer	Yes
Document Name	
Comment	
AZPS agrees with the moving of these administrative items from the standard to the procedure. AZPS asks the Drafting Team to provide clarity on whether Form 2s are also required to be submitted and if so, please include in the procedure. And as mentioned in response to Question 2, please consider moving the table which demonstrates what the currently calculated values are for RLPC, CLR, and IFRO for the coming years out of the standard and into the procedure as well.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In Attachment A, on Page 13 of 15 of the standard, it states: "All events listed on FRS Form 1 need to be included in the annual submission of FRS Forms 1 and 2." Since the IFRO directly impacts an entity's compliance obligation, the drafting team recommends that it stay in Attachment A. Please see response to Question 2.	
Diana Torres - Imperial Irrigation District - 1,3,5,6	
Answer	Yes
Document Name	
Comment	

IID believes that this will simply the FRO and FR settings. Indirectly this can also reduce risk when the FRM is reduced dramatically.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Devin Shines - PPL - Louisville Gas and Electric Co. - 3,5,6 - SERC, Group Name Louisville Gas and Electric Company and Kentucky Utilities Company	
Answer	Yes
Document Name	
Comment	
LG&E/KU recommends that the Event Selection Criteria include a consideration for load level at the time of the event. Load provides a frequency response benefit that is proportional to the amount and type of load on-line at the time of the event. Therefore, events occurring during light load realize less of this benefit, and such events will exhibit greater volatility in frequency excursions. Selection of too many events during low load periods can skew the results, which will not provide the most accurate view of an interconnection’s “normal” FR capability.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. Based on the data reviewed, the events occurring during lower load times in an interconnection are the events that could potentially be more of a risk to reliability. Therefore, the process proposed is silent on the mix of events to be used for the compliance calculation. Instead, the main driver of the list is the depth of the frequency excursion rather than trying to find events in a particular part of the day/week/season.	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - WECC	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your response.	
Neil Swearingen - Salt River Project - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your response.	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Thank you for your response.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your response.	
Mark Holman - PJM Interconnection, L.L.C. - 2, Group Name SRC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your response.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your response.	
Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your response.	
Ozan Ferrin - Tacoma Public Utilities (Tacoma, WA) - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Thank you for your response.

Mike Smith - Manitoba Hydro - 1, Group Name Manitoba Hydro

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your response.

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

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your response.

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your response.

Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Westar Energy, 6, 3, 1, 5; Bryan Taggart, Westar Energy, 6, 3, 1, 5; Derek Brown, Westar Energy, 6, 3, 1, 5; Grant Wilkerson, Westar Energy, 6, 3, 1, 5; Harold Wyble, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; James McBee, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; Jennifer Flandermeyer, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; John Carlson, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; - Douglas Webb

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your response.

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

Answer Yes

Document Name

Comment

Likes 0

Dislikes	0
Response	
Thank you for your response.	
Jim Williams - Southwest Power Pool, Inc. (RTO) - 2 - MRO, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your response.	
Jodirah Green - ACES Power Marketing - 6, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your response.	
Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your response.	
<p>4. Please provide any additional comments for the SDT to consider that have not already been provided in the questions above.</p> <p>Summary Responses:</p> <p>A comment received stated that the original SAR that brought about the SDT discussed the need for application of governor standards to the GO's. In its Notice of Proposed Rulemaking (NOPR) on Primary Frequency Response (Docket No. RM16-6-000), FERC stated that proposed modifications to Generator Interconnection Agreements for both large and small generating facilities (both synchronous and non-synchronous) would require new generators to install, maintain, and operate equipment capable of providing primary frequency response as a condition of interconnection. FERC recognized that “[w]hile NERC Reliability Standard BAL-003-1.1 establishes requirements for balancing authorities, it does not include any requirements for individual generator owners or operators,” and that “[w]hen considered in aggregate, the primary frequency response provided by generators within an Interconnection has a significant impact on the overall frequency response.” The commenter requested to see additional information from the SDT on why this FERC-identified, and SAR objective, is not currently being addressed in either Phase of the revisions to BAL-003.</p> <p>In response, the SAR approved by the Standards Committee, under which this drafting team is working, states in the second bullet under Phase II “Although Balancing Authorities (BAs) and FRSGs are responsible for coordination and/or management of Frequency Response from both resources and loads, response from resources is not addressed. The review should determine if additional reliability entities should have responsibility (e.g., Generator Operators (GOPs)) for provision of generator governor response; and...” Therefore, the SDT will discuss and potentially recommend additional requirements in the future related to other entities. The SDT adds that it is unlikely to recommend removing the existing requirement related to BAs and FRSGs due to the reasoning stated in the SAR. Future postings for comments related to BAL-003 will allow for industry feedback on this issue.</p>	

One commenter stated that the Frequency Response Standard Background Document goes beyond explaining “the rationale and considerations for the Requirements of this standard and their associated compliance information.” That, as written, the Background Document promotes the concept of frequency responsive reserves, as detailed in the Good Practices and Tools section.

The SDT posted the Background Document (which was drafted in 2012) as part of developing BAL-003-1 for reference only. This drafting team is not proposing any changes to that document.

A comment was received that Table 1 of the proposed standard reflects a value of 120MW as “Credit for Load Resources” for the Western Interconnection and suggested that this number be validated as accurate at this point in time. In response, the SDT has removed the Credit for Load Resources (CLR) in the Western Interconnection.

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer

Document Name

Comment

The original SAR that brought about the SDT discussed the need for application of governor standards to the GO’s. NV Energy recognizes that no reference to this item from the SAR is addressed in Phase 1, or in the proposed changes coming in Phase 2. In its Notice of Proposed Rulemaking (NOPR) on Primary Frequency Response (Docket No. RM16-6-000), FERC stated that proposed modifications to Generator Interconnection Agreements for both large and small generating facilities (both synchronous and non-synchronous) would require new generators to install, maintain, and operate equipment capable of providing primary frequency response as a condition of interconnection. FERC recognized that “[w]hile NERC Reliability Standard BAL-003-1.1 establishes requirements for balancing authorities, it does not include any requirements for individual generator owners or operators,” and that “[w]hen considered in aggregate, the primary frequency response provided by generators within an Interconnection has a significant impact on the overall frequency response.” NV Energy would like to see additional information from the SDT on why this FERC-identified, and SAR objective, is not currently being addressed in either Phase of the revisions to BAL-003.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SAR approved by the Standards Committee under which this drafting team is working states in the second bullet under Phase II “Although Balancing Authorities (BAs) and FRSGs are responsible for coordination and/or management of Frequency Response from both resources and loads, response from resources is not addressed. The review should determine if additional reliability entities should have responsibility (e.g., Generator Operators (GOPs)) for provision of generator governor response; and...” Therefore, the SDT will discuss and potentially recommend additional requirements in the future related to other entities. The SDT adds that it is unlikely to recommend removing the existing requirement related to BAs and FRSGs due to the reasoning stated in the SAR. Future postings for comments related to BAL-003 will allow for industry feedback on this issue.

Jodirah Green - ACES Power Marketing - 6, Group Name ACES Standard Collaborations

Answer

Document Name

Comment

We believe adding 1) a revision history section to the Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard and 2) an informative section describing the method that industry receives the information regarding the changes associated with the procedure or RLPC; would improve the overall effectiveness of this procedure.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT will pass your comment on to NERC staff for them to decide the changes in formatting for the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard*.

Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Westar Energy, 6, 3, 1, 5; Bryan Taggart, Westar Energy, 6, 3, 1, 5; Derek Brown, Westar Energy, 6, 3, 1, 5; Grant Wilkerson, Westar Energy, 6, 3, 1, 5; Harold Wyble, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; James McBee, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; Jennifer Flandermeyer, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; John Carlson, Great Plains Energy - Kansas City Power and Light Co., 5, 1, 3, 6; - Douglas Webb

Answer

Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	
Response	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	
Document Name	
Comment	
Duke Energy's "Affirmative" vote for Phase 1 of this Project, is based in large part on our support for the continuation of the Project into Phase 2. We appreciate the work performed by the drafting team thus far, and look forward to Phase 2 of the Project.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Devin Shines - PPL - Louisville Gas and Electric Co. - 3,5,6 - SERC, Group Name Louisville Gas and Electric Company and Kentucky Utilities Company	
Answer	
Document Name	

Comment

LG&E/KU believes the Frequency Response Standard Background Document goes beyond explaining “the rationale and considerations for the Requirements of this standard and their associated compliance information.”

As written, the Background Document promotes the concept of frequency responsive reserves, as detailed in the Good Practices and Tools section. We believe that the Drafting team should remove the Good Practices and Tools section from the Background Document, as it strays from the document’s intended purpose. If necessary, the Good Practices and Tools section could be included in the Reliability Guideline Primary Frequency Control.

Likes 0

Dislikes 0

Response

Thank you for your comment. The Background Document was drafted in 2012 as part of developing BAL-003-1 and posted under this project for reference only. This drafting team is not proposing any changes to that document.

Diana Torres - Imperial Irrigation District - 1,3,5,6

Answer

Document Name

Comment

IID, a relatively small BA in the western interconnection does not see major issues with the proposed SDT changes.

Likes 0

Dislikes 0

Response

Thank you for your support.

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

Answer	
Document Name	
Comment	
<p>PJM thanks and supports the BAL-003-1 Standard Drafting Team’s draft revisions to BAL-003-1 in Phase 1; and supports the development of the Standards Authorization Request in Phase 2 information as it pertains to correcting the applicable entity that controls and provides frequency response, and other related information. PJM believes generators providing primary frequency response is an essential reliability need for both real-time and restoration conditions. A generator requirement across the Interconnections can ensure the necessary frequency response. PJM conducted a stakeholder process in 2018 for primary frequency response requirements for generators, however was unable to reach stakeholder consensus. One of the concerns raised from our members was that this is an Interconnection product, and as such PJM encourages NERC to continue this discussion in the Standard Drafting Team process.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The SAR approved by the Standards Committee under which this drafting team is working states in the second bullet under Phase II “Although Balancing Authorities (BAs) and FRSGs are responsible for coordination and/or management of Frequency Response from both resources and loads, response from resources is not addressed. The review should determine if additional reliability entities should have responsibility (e.g., Generator Operators (GOPs)) for provision of generator governor response; and”. Therefore, the SDT will discuss and potentially recommend additional requirements in the future related to other entities. The SDT adds that it is unlikely to recommend removing the existing requirement related to BAs and FRSGs due to the reasoning stated in the SAR. Future postings for comments related to BAL-003 will allow for industry feedback on this issue.</p>	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	
Document Name	
Comment	

Any further reduction in frequency response is not acceptable.

Likes 0

Dislikes 0

Response

Thank you for your comment. The comment does not provide adequate information to respond.

Michelle Amarantos - APS - Arizona Public Service Co. - 1

Answer

Document Name

Comment

AZPS would like to point out that the changes made to the Violation Severity Levels for R1 unintentionally created multiple outcomes based on certain criteria. The way the Moderate, High, and Severe VSLs are described, a Balancing Authority could have a less negative FRM than its FRO reflected in MW/0.1 Hz that qualifies for multiple levels. For example, if a BA had a deficiency between 31-45 MW, it could qualify as both Moderate and High. Deficiencies of 46 MW or greater could qualify as both Moderate and Severe. The use of the word “or” allows for this dilemma. AZPS does not recommend removing the word “or,” but rather completing the ranges with the levels to eliminate this confusion.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT revised the VSL table.

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

Answer

Document Name

Comment

BPA noticed in review of the revised standard that the Violation Severity Levels are less restrictive. This change was not in the list of modifications at the start of this document. BPA cannot agree with less restrictive VSLs in combination with the current median FRM score utilized for compliance.

BPA feels that if an entity does not meet the median it should be at the severe VSL. However, in order to move onto Phase II of the 2017-01 project, BPA suggests the following approach until Phase II can be completed

Alternative Approach: BPA suggests that the VSLs for R1 be made more restrictive. Lower Level between 1% and 5%, moderate 5% to 10%, high 10% to 15% and Severe greater than 15%.

In WECC, the majority of selected frequency events have loss of less than 1000 MW with a nadir of 59.9 Hz or greater (less than or equal to 100 mHz deviation.) If an entity cannot comply with the median FRM, that entity has high probability of never being able to respond adequately to an event the size of the RLPC. If multiple entities have an FRM less than the median, the interconnection is at a high risk of underfrequency load shed when a loss as great as the RLPC occurs. Therefore, BPA believes the VSLs must be more restrictive than the proposed to support interconnection reliability.

Likes 0

Dislikes 0

Response

Thank you for your comment. Due to the range in size of BAs and the allocated FRO's to these different entities, at this time the SDT disagrees with the levels proposed by BPA. As the SDT works on possible revisions to the allocation methodology under Phase II, this issue will be considered.

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

Answer

Document Name

Comment

Xcel Energy would like to ensure that the proposed change to the C point to 20 seconds instead of 12 seconds (as specified on Page 1 of the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* document is consistently changed throughout the document. For example, it is not clear if the language on page 1 in 3b needs modification (“18 seconds”), and page 2 item 5 (“18 seconds”).

Also, we would like to understand how proposed changes to the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* document will gather input from industry and also any approved changes publicized, if not through the standards process (ie standards development distribution lists).

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT revised the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* for consistency. The process to change the *Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard* is something outside the SDT scope. According to the document itself, the NERC BOT must approve changes to the document after posting for public comment. The SDT believes that including the document in the posting of the revised standard addresses this requirement. However, any entity can suggest changes to the document and NERC would then post the changes for comment in any public forum NERC desires.

Richard Vine - California ISO - 2

Answer

Document Name

Comment

Table 1, which starts on page 12 and ends on page 13 of the proposed standard reflects a value of 120MW as “Credit for Load Resources” for the Western Interconnection. The California ISO suggests that this number be validated as accurate at this point in time.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT has removed the Credit for Load Resources (CLR) in the Western Interconnection.

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

Answer

Document Name

Comment

SRP supports the proposed revisions and does not have additional comments for the SDT.

Likes 0

Dislikes 0

Response

Thank you for your support.