Comment Report

Project Name:	2017-01 Modifications to BAL-003 Phase II | Draft 2
Comment Period Start Date:	4/18/2023
Comment Period End Date:	6/1/2023
Associated Ballots:	2017-01 Modifications to BAL-003 Phase II BAL-003-3 AB 2 ST 2017-01 Modifications to BAL-003 Phase II Implementation Plan AB 2 OT

There were 63 sets of responses, including comments from approximately 154 different people from approximately 101 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

1. Based on industry comments, proposed Requirement R5 from Draft Version I of proposed BAL-003-3 has been removed and is not included in Draft Version II of proposed BAL-003-3.

Draft Version I Requirement R5:

"Each Balancing Authority shall develop, review and maintain annually, and implement an Operating Process as part of its Operating Plan to determine its Frequency Response requirements and make preparations to have Frequency Response equal to or greater than (in absolute value) the Balancing Authority's Frequency Response Obligation available for maintaining system reliability."

This requirement proposed to require inclusion of explicit consideration of frequency responsive reserves in the Balancing Authority's Operating Plans. Industry comments received noted that the proposed requirement is administrative in nature and redundant to other requirements in other standards, specifically TOP-002-4, Requirement R4; which requires that Balancing Authorities prepare next day Operating Plans which considers all key elements, including energy reserve requirements. Although not explicitly named, frequency responsive reserve is an energy reserve requirement. After consideration of the comments received, the Standard Drafting Team (SDT) removed proposed Requirement R5.

Do you agree with the deletion of proposed Requirement R5 from Draft Version 1 of proposed BAL-003-3? Please provide the reasoning or justification for your position in the comments.

2. Based on industry comments, proposed Requirement R7 from Draft Version I of proposed BAL-003-3 has been removed and is not included in Draft Version II of proposed BAL-003-3.

Draft Version I Requirement R7:

"*Each Generator Owner shall have its Governor capability on each resource set with a droop of no more than five (5) percent and a deadband not more than 0.036 Hz. Exceptions to these setting requirements are allowed if the Generator Owner has notified its Balancing Authority that:*

- ***The droop setting is greater than five (5) percent or the deadband is greater than 0.036 Hz; or***
- ***The resource as designed does not have frequency response capability."***

This requirement proposed that the Generator Owner is responsible to ensure minimum settings for the Governor droop and deadband or for notification to the Balancing Authority if the settings were not within the minimum settings to address the Balancing Authorities that may be concerned about not seeing FR expected. Industry comments received noted that the Balancing Authority already has the ability to request this information from their Generator Owners under TOP-003-4, and proposing a new requirement under BAL-003 was unnecessary and possibly duplicative of TOP-003-4. TOP-003-4, Requirement R2 requires BAs to maintain a documented specification for data necessary for it to perform its analysis functions and Real-time monitoring; while Requirement R5, requires Generator Owners receiving a data specification (under TOP-003-4, Requirement R4) to satisfy the obligations of the documented data specification.

Do you agree with the deletion of proposed Requirement R7 from Draft Version 1 of proposed BAL-003-3? Please provide the reasoning or justification for your position in the comments.

3. As both of the previous proposed Requirements R5 and R7 from Draft Version I of proposed BAL-003-3 have been removed, the previously-proposed Requirement R6 now appears as proposed Requirement R5 in Draft Version II of proposed Reliability Standard BAL-003-3. This requirement has been revised to reflect the SDT's opinion of what constitutes a requirement that would benefit the electric system frequency control ability through the use of governors which are able to respond to frequency disturbances. Many comments from industry expressed a need for the allowance for exceptions. Exemptions have been added to the newly-proposed Requirement R5.

Industry comments also expressed concern that "controls" versus "modes" were used in the previously-proposed Requirement R6. This conflict in terms has been resolved in the changes made to the requirement.

Additionally, industry comments reflected disagreement with the interchangeable use of governor with "frequency responsive controls." This duplicative use has been removed in the current draft of the requirement. The notification part of the previously-proposed requirement has been removed.

The proposed requirement uses the Texas RE regional definition for the terms Governor and Primary Frequency Response used by Texas RE and proposes to add them to the NERC Glossary of Terms.

Draft Version I Requirement R6:

"*Each Generator Operator shall operate... "* Please refer to the Unofficial Comment Form for complete text.

Draft Version II Requirement R5:

"*Each Generator Operator shall operate..."* Please refer to the Unofficial Comment Form for complete text.

Do you support adding proposed Requirement R5 to BAL-003? Please provide the reasoning or justification for your position in the comments.

4. Concerns related to the current performance metric for Balancing Authorities, where the median performance of all Operating Year selected events is used to determine compliance, potentially allows for an entity to perform well in the first half of the year and then "detune" their performance for the second half of the year. Discussions by the SDT concluded that the after-the-fact methodology with a "median" performance metric is the preferred method to measure performance due to the impact that outlier events have on a "mean" calculation.

Do you agree with the after-the-fact methodology with a "median" performance metric, or do you think a "mean" performance metric would be a better method to measure performance? Please provide the reasoning or justification for your position in the comments.

5. Please provide any other comments or feedback, which you haven't already provided, to the SDT related to the proposed modifications to the standard.

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
BC Hydro and Power Authority	Adrian Andreoiu	1	WECC	BC Hydro	Hootan Jarollahi	BC Hydro and Power Authority	3	WECC
					Helen Hamilton Harding	BC Hydro and Power Authority	5	WECC
					Adrian Andreoiu	BC Hydro and Power Authority	1	WECC
DTE Energy - Detroit Edison Company	Adrian Raducea	5		DTE Energy - DTE Electric	Karie Barczak	DTE Energy - Detroit Edison Company	3	RF
					Adrian Raducea	DTE Energy - Detroit Edison	5	RF
					patricia ireland	DTE Energy	4	RF
Puget Sound Energy, Inc.	Anna Lavik	1,3,5,6		BAL-003	Kellie Anderson	Puget Sound Energy, Inc.	5	WECC
					Anna Lavik	Puget Sound Energy	1	WECC
Santee Cooper	Chris Wagner	1		Santee Cooper	Diana Scott	Santee Cooper	1,3,5,6	SERC
					Paul Camilletti	Santee Cooper	1,3,5,6	SERC
WEC Energy Group, Inc.	Christine Kane	3		WEC Energy Group	Christine Kane	WEC Energy Group	3	RF
					Matthew Beilfuss	WEC Energy Group, Inc.	4	RF
					Clarice Zellmer	WEC Energy Group, Inc.	5	RF
					David Boeshaar	WEC Energy Group, Inc.	6	RF
Elizabeth Davis	Elizabeth Davis		RF,SERC	ISO/RTO Standards Review Committee	Mike Del Viscio	PJM	2	RF
					Bobbi Welch	Midcontinent ISO, Inc.	2	RF
					Helen Lainis	IESO	2	NPCC
					Kathleen Goodman	ISO-NE	2	NPCC

					Gregory Campoli	New York Independent System Operator	2	NPCC
					Charles Yeung	Southwest Power Pool, Inc. (RTO)	2	MRO
					Kennedy Meier	ERCOT	2	Texas RE
					Ali Miremadi	California ISO	2	WECC
Jennie Wike	Jennie Wike		WECC	Tacoma Power	Jennie Wike	Tacoma Public Utilities	1,3,4,5,6	WECC
					John Merrell	Tacoma Public Utilities (Tacoma, WA)	1	WECC
					John Nierenberg	Tacoma Public Utilities (Tacoma, WA)	3	WECC
					Hien Ho	Tacoma Public Utilities (Tacoma, WA)	4	WECC
					Terry Gifford	Tacoma Public Utilities (Tacoma, WA)	6	WECC
					Ozan Ferrin	Tacoma Public Utilities (Tacoma, WA)	5	WECC
PPL - Louisville Gas and Electric Co.	Jennifer Blair	1,3,5,6	RF,SERC	PPL NERC Registered Affiliates	James Frank	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
					Michelle Longo	PPL Electric Utilities Corporation	1	RF
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,RF,SERC,Texas RE,WECC	ACES Collaborators	Bob Soloman	Hoosier Energy Electric Cooperative	1	RF
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Nikki Carson-Marquis	Minnkota Power Cooperative	NA - Not Applicable	MRO
					Scott Brame	North Carolina Electric Membership Corporation	3,4,5	SERC
					Amber Skillern	East Kentucky Power Cooperative	1	SERC
Entergy	Julie Hall	6		Entergy	Oliver Burke	Entergy - Entergy Services, Inc.	1	SERC
					Jamie Prater	Entergy	5	SERC
FirstEnergy - FirstEnergy Corporation	Mark Garza	4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Mark Garza	FirstEnergy-FirstEnergy	1,3,4,5,6	RF
					Stacey Sheehan	FirstEnergy - FirstEnergy Corporation	6	RF

Pacific Gas and Electric Company	Michael Johnson	1,3,5	WECC	PG&E All Segments	Marco Rios	Pacific Gas and Electric Company	1	WECC
					Sandra Ellis	Pacific Gas and Electric Company	3	WECC
					Frank Lee	Pacific Gas and Electric Company	5	WECC
Southern Company - Southern Company Services, Inc.	Pamela Frazier	1,3,5,6	MRO,RF,SERC,Texas RE,WECC	Southern Company	Matt Carden	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					Jim Howell, Jr.	Southern Company - Southern Company Generation	5	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC
Public Utility District No. 1 of Chelan County	Rebecca Zahler	5		CHPD Voters	Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
					Anne Kronshage	Public Utility District No. 1 of Chelan County	6	WECC
					Glen Pruitt	Public Utility District No. 1 of Chelan County	1	WECC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC RSC	Gerry Dunbar	Northeast Power Coordinating Council	10	NPCC
					Alain Mukama	Hydro One Networks, Inc.	1	NPCC

Deidre Altobell	Con Edison	1	NPCC
Jeffrey Streifling	NB Power Corporation	1	NPCC
Michele Tondalo	United Illuminating Co.	1	NPCC
Stephanie Ullah-Mazzuca	Orange and Rockland	1	NPCC
Michael Ridolfino	Central Hudson Gas & Electric Corp.	1	NPCC
Randy Buswell	Vermont Electric Power Company	1	NPCC
James Grant	NYISO	2	NPCC
John Pearson	ISO New England, Inc.	2	NPCC
Harishkumar Subramani Vijay Kumar	Independent Electricity System Operator	2	NPCC
Randy MacDonald	New Brunswick Power Corporation	2	NPCC
Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
David Burke	Orange and Rockland	3	NPCC
Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
Salvatore Spagnolo	New York Power Authority	1	NPCC
Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC

					David Kwan	Ontario Power Generation	4	NPCC
					Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	1	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Sean Cavote	PSEG	4	NPCC
					Jason Chandler	Con Edison	5	NPCC
					Tracy MacNicoll	Utility Services	5	NPCC
					Shivaz Chopra	New York Power Authority	6	NPCC
					Vijay Puran	New York State Department of Public Service	6	NPCC
					ALAN ADAMSON	New York State Reliability Council	10	NPCC
					David Kiguel	Independent	7	NPCC
					Joel Charlebois	AESI	7	NPCC
					John Hastings	National Grid	1	NPCC
					Michael Jones	National Grid USA	1	NPCC
					Joshua London	Eversource Energy	1	NPCC
Western Electricity Coordinating Council	Steven Rueckert	10		WECC	Steve Rueckert	WECC	10	WECC
					Phil O'Donnell	WECC	10	WECC
Tim Kelley	Tim Kelley		WECC	SMUD / BANC	Nicole Looney	Sacramento Municipal Utility District	3	WECC
					Charles Norton	Sacramento Municipal Utility District	6	WECC

					Wei Shao	Sacramento Municipal Utility District	1	WECC
					Foung Mua	Sacramento Municipal Utility District	4	WECC
					Nicole Goi	Sacramento Municipal Utility District	5	WECC
					Kevin Smith	Balancing Authority of Northern California	1	WECC

1. Based on industry comments, proposed Requirement R5 from Draft Version I of proposed BAL-003-3 has been removed and is not included in Draft Version II of proposed BAL-003-3.

Draft Version I Requirement R5:

"Each Balancing Authority shall develop, review and maintain annually, and implement an Operating Process as part of its Operating Plan to determine its Frequency Response requirements and make preparations to have Frequency Response equal to or greater than (in absolute value) the Balancing Authority's Frequency Response Obligation available for maintaining system reliability."

This requirement proposed to require inclusion of explicit consideration of frequency responsive reserves in the Balancing Authority's Operating Plans. Industry comments received noted that the proposed requirement is administrative in nature and redundant to other requirements in other standards, specifically TOP-002-4, Requirement R4; which requires that Balancing Authorities prepare next day Operating Plans which considers all key elements, including energy reserve requirements. Although not explicitly named, frequency responsive reserve is an energy reserve requirement. After consideration of the comments received, the Standard Drafting Team (SDT) removed proposed Requirement R5.

Do you agree with the deletion of proposed Requirement R5 from Draft Version 1 of proposed BAL-003-3? Please provide the reasoning or justification for your position in the comments.

Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	No
Document Name	
Comment	

Texas RE asserts that an explicit requirement is necessary for Frequency Response to be adequately addressed. TOP-002-4 Requirement R4 requires the Balancing Authority (BA) to have an Operating Plan(s) for next-day operation. Conversely, Requirement R4 requirement does not address the implementation of that plan or any analysis required by the BA to assess whether the plan meets the required frequency response criteria. Texas RE recommends this be addressed in the BAL-003-3 as implementation of the Operating Plan(s) and assessment of its effectiveness on maintaining system reliability is essential. Texas RE recommends the following language, which modifies the previously drafted Requirement R5:

"Each Balancing Authority shall review and implement an Operating Process as part of its Operating Plan to determine its Frequency Response requirements and make preparations to have Frequency Response equal to or greater than (in absolute value) the Balancing Authority's Frequency Response Obligation available for maintaining system reliability."

Likes 0	
Dislikes 0	
Response	

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	No
Document Name	

Comment
BPA advocated for this requirement because it would bring BAL-003 closer to a real-time reserve requirement and address concerns with using a median or average performance metric. We disagree with the drafting team's claim that the new requirement would be redundant to TOP-002-4, R4. Industry thinks the various NERC interconnections have adequate frequency response and there is no need to require the same level of operations planning for frequency responsive reserves as Contingency Reserves. BPA agrees that the current level of frequency response is adequate in the various interconnections, but urges BAs and TOPs to prepare for a future where frequency responsive reserves may need to be dispatched. This means ensuring newly connecting resources have an enabled governor, are monitored regularly, and can accept a dispatch signal if needed to hold frequency responsive headroom. As long as the frequency responsive equipment is present and enabled to provide frequency response, BPA trusts that any needed adjustments to the BAL-003 standard will happen, along with supporting market development, to ensure adequate frequency response.

Likes 0	
Dislikes 0	

Response

Jessica Lopez - APS - Arizona Public Service Co. - 3	
Answer	Yes
Document Name	

Comment
AZPS supports the deletion of proposed Requirement R5 from Draft Version 1 of proposed BAL-003-3 as it is redundant to TOP-002-4 R4.

Likes 0	
Dislikes 0	

Response

Nazra Gladu - Manitoba Hydro - 1	
Answer	Yes
Document Name	

Comment
Manitoba Hydro agrees with the removal of this requirement as it was administrative in nature and potentially redundant. As mentioned in the question above, industry comments infer that a plan to determine frequency responsive reserves is redundantly covered within TOP-002-4 R4, which requires a BA's next day Operating Plans to include energy reserve requirements. Manitoba Hydro suggests that the SDT consider augmenting TOP-002-4 R4 to explicitly indicate the requirement to determine a plan to meet frequency responsive reserves as per the original intent of BAL-003-3 draft version 1 requirement R5.

Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
None.	
Likes 0	
Dislikes 0	
Response	
Joseph Gatten - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Xcel Energy supports the comments of EEI and MRO NSRF.	
Likes 0	
Dislikes 0	
Response	
Karla Weaver - Public Utility District No. 2 of Grant County, Washington - 4	
Answer	Yes
Document Name	
Comment	
GCPD agrees that this proposed requirement is not needed in the standard because it is redundant and administrative in nature.	
Likes 0	
Dislikes 0	

Response	
Claudine Bates - Black Hills Corporation - 6	
Answer	Yes
Document Name	
Comment	
Although Black Hills Corporation is not a BA, we do agree with the proposed deletion and inclusion for the current draft.	
Likes 0	
Dislikes 0	
Response	
Sheila Suurmeier - Black Hills Corporation - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Although Black Hills Corporation is not a BA, we do agree with the proposed deletion and inclusion for the current draft.	
Likes 0	
Dislikes 0	
Response	
Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	Yes
Document Name	
Comment	
Although Black Hills Corporation is not a BA, we do agree with the proposed deletion and inclusion for the current draft.	
Likes 0	
Dislikes 0	
Response	

Micah Runner - Black Hills Corporation - 1	
Answer	Yes
Document Name	
Comment	
Although Black Hills Corporation is not a BA, we do agree with the proposed deletion and inclusion for the current draft.	
Likes 0	
Dislikes 0	
Response	
Casey Perry - PNM Resources - 1,3 - WECC	
Answer	Yes
Document Name	
Comment	
PNM does not oppose the deletion of proposed BAL-003-3, Requirement R5.	
Likes 0	
Dislikes 0	
Response	
Joseph Amato - Berkshire Hathaway Energy - MidAmerican Energy Co. - 3	
Answer	Yes
Document Name	
Comment	
MidAmerican supports MRO NSRF comments.	
Likes 0	
Dislikes 0	
Response	
Kimberly Turco - Constellation - 6	
Answer	Yes

Document Name	
Comment	
Constellation agrees with the deletion of proposed Requirement R5 based on possible duplication under TOP-002-4 Requirement R4. Kimberly Turco on behalf of Constellation Segments 5 and 6.	
Likes 0	
Dislikes 0	
Response	
Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
Answer	Yes
Document Name	
Comment	
None.	
Likes 0	
Dislikes 0	
Response	
Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Southern Company supports comments submitted by EEI.	
Likes 0	
Dislikes 0	
Response	
Elizabeth Davis - Elizabeth Davis On Behalf of: Thomas Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis, Group Name ISO/RTO Standards Review Committee	

Answer	Yes
Document Name	
Comment	
The ISO RTO Council Standards Review Committee (SRC) agrees with this removal as an Operating Plan for Frequency Response would be difficult to implement without a requirement for Generator Owners and Operators to provide Frequency Response, as no other entities provide this service.	
Likes 0	
Dislikes 0	
Response	
Lindsey Mannion - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	
RF agrees with the deletion of the proposed Requirement R5 and concurs with the SDT's reasoning presented above.	
Likes 0	
Dislikes 0	
Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI does not oppose the deletion of proposed BAL-003-3, Requirement R5.	
Likes 0	
Dislikes 0	
Response	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	Yes

Document Name	
Comment	
WEC Energy Group supports EEI's comments.	
Likes 0	
Dislikes 0	
Response	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	Yes
Document Name	
Comment	
Avista agrees that TOP-002-4 R4 addresses the issue that the proposed R5 was intended to address. The need to ensure adequate frequency responsive reserve is also implicit in proposed Requirement R1 of BAL-003-3. Avista supports the need to plan to have frequency responsive reserves, we agree that TOP-002-4 addresses the issue.	
Likes 0	
Dislikes 0	
Response	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Kinte Whitehead - Exelon - 3	
Answer	Yes
Document Name	

Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Sabrina Martz - Platte River Power Authority - 6	
Answer	Yes
Document Name	
Comment	
Although Platte River is not a BA, we do agree with the proposed deletion and inclusion for the current draft.	
Likes 0	
Dislikes 0	
Response	
Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2	
Answer	Yes
Document Name	
Comment	
ERCOT supports the comments submitted by the ISO/RTO Council Standards Review Committee (SRC) and adopts them as its own.	
Likes 0	
Dislikes 0	
Response	
Alison MacKellar - Constellation - 5	
Answer	Yes
Document Name	
Comment	

Constellation agrees with the deletion of proposed Requirement R5 based on possible duplication under TOP-002-4 Requirement R4.

Alison Mackellar on behalf of Constellation Segments 5 and 6

Likes 0	
Dislikes 0	

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Answer	Yes
Document Name	

Comment

We agree that this would create a redundant requirement.

Likes 0	
Dislikes 0	

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF

Answer	Yes
Document Name	

Comment

Southern Indiana Gas & Electric Company (SIGE) agrees with the deletion of Requirement R5 from Draft Version 1. SIGE is registered as a BA but only performs the Local BA functions. MISO performs our BA functions as coordinated per the CFR. SIGE supports MISO's comments to Question 1.

Likes 0	
Dislikes 0	

Response

Thomas Foltz - AEP - 5

Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
James Keele - Entergy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Wendy Kalidass - U.S. Bureau of Reclamation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Junji Yamaguchi - Hydro-Quebec (HQ) - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Adrian Raducea - DTE Energy - Detroit Edison Company - 5, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Harishkumar Subramani Vijay Kumar - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rebecca Zahler - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD Voters	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Lori Frisk - Allete - Minnesota Power, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Anna Lavik - Puget Sound Energy, Inc. - 1,3,5,6, Group Name BAL-003	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Alan Kloster - Alan Kloster On Behalf of: Jennifer Flandermeyer, Evergy, 3, 6, 5, 1; Jeremy Harris, Evergy, 3, 6, 5, 1; Kevin Frick, Evergy, 3, 6, 5, 1; Marcus Moor, Evergy, 3, 6, 5, 1; - Alan Kloster	
Answer	Yes
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 NPCC RSC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karen Weaver - Tallahassee Electric (City of Tallahassee, FL) - 5 - SERC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dave Krueger - SERC Reliability Corporation - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Diana Torres - Imperial Irrigation District - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jennifer Blair - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF, Group Name PPL NERC Registered Affiliates	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
James Mearns - James Mearns On Behalf of: Jeremy Lawson, Northern California Power Agency, 4, 6, 3, 5; Marty Hostler, Northern California Power Agency, 4, 6, 3, 5; Michael Whitney, Northern California Power Agency, 4, 6, 3, 5; - James Mearns	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Goi, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD / BANC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
David Jendras Sr - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Timothy Singh, Salt River Project, 3, 5, 1, 6; - Israel Perez	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Johnson - Pacific Gas and Electric Company - 1,3,5 - WECC, Group Name PG&E All Segments	
Answer	
Document Name	
Comment	
PG&E is not providing input to Q1 since we are not a Balancing Authority (BA).	
Likes 0	
Dislikes 0	
Response	
Kenya Streeter - Edison International - Southern California Edison Company - 6	
Answer	
Document Name	
Comment	
See comments submitted by the Edison Electric Institute	
Likes 0	
Dislikes 0	
Response	

2. Based on industry comments, proposed Requirement R7 from Draft Version I of proposed BAL-003-3 has been removed and is not included in Draft Version II of proposed BAL-003-3.

Draft Version I Requirement R7:

"*Each Generator Owner shall have its Governor capability on each resource set with a droop of no more than five (5) percent and a deadband not more than 0.036 Hz. Exceptions to these setting requirements are allowed if the Generator Owner has notified its Balancing Authority that:*

- ***The droop setting is greater than five (5) percent or the deadband is greater than 0.036 Hz; or***
- ***The resource as designed does not have frequency response capability."***

This requirement proposed that the Generator Owner is responsible to ensure minimum settings for the Governor droop and deadband or for notification to the Balancing Authority if the settings were not within the minimum settings to address the Balancing Authorities that may be concerned about not seeing FR expected. Industry comments received noted that the Balancing Authority already has the ability to request this information from their Generator Owners under TOP-003-4, and proposing a new requirement under BAL-003 was unnecessary and possibly duplicative of TOP-003-4. TOP-003-4, Requirement R2 requires BAs to maintain a documented specification for data necessary for it to perform its analysis functions and Real-time monitoring; while Requirement R5, requires Generator Owners receiving a data specification (under TOP-003-4, Requirement R4) to satisfy the obligations of the documented data specification.

Do you agree with the deletion of proposed Requirement R7 from Draft Version 1 of proposed BAL-003-3? Please provide the reasoning or justification for your position in the comments.

Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Timothy Singh, Salt River Project, 3, 5, 1, 6; - Israel Perez

Answer	No
Document Name	

Comment

SRP believe that TOP-003-4 or TOP-003-5 standards don't provide common requirements for droop and deadband for the interconnection, which is needed for system resources to function to support frequency while not fighting for control between resources. SRP would also modify the exception language, "*The resource as designed does not have frequency response capability"* to only allow for this exception for generating units below 25 MW or for nuclear unit subject to NRC limits for governors related to unit stability.

In addition, SRP agrees with Manitoba Hydro to keep the required droop and deadband settings of the Governor necessary to support frequency response and combine it with the new draft version II R5 and support the following comments:

"The IESO believes that it is an important performance requirement and the standard should specify the required droop and deadband settings of the resource Governor*. TOP-003 only governs the collection of the droop/deadband data; however, it does not specify performance criteria. As such, there is value in maintaining existing requirement"*

The SRC does not support the removal of Requirement R7 from Draft Version 1. This requirement is directly related to Draft Version 2, Requirement R5. Failure to require specific droop and deadband settings of the resource Governor could lead to inadequate and ineffective frequency response to arrest abnormal frequency deviations if Governors are set to unsatisfactory levels. In order to meet Area Control Error (ACE) obligations, Balancing Authorities must have some assurance that a

sufficient number of generators have appropriate frequency response. This is of particular concern for independent Balancing Authorities; those Balancing Authorities with affiliated generators may have less concern and risk.

The SRC recommends that the drafting team add a Requirement consistent with FERC Order 842, paragraph 70, which addresses required droop and deadband settings for newly interconnecting generating facilities, the format of which could be similar to BAL-001-TRE-2 R6, which requires specific droop and deadband settings unless the Balancing Authority directs otherwise.

TOP-003-4 does not provide an avenue for requiring specific Governor settings; it is a reporting requirement that allows Balancing Authorities to acquire the settings information. While this information can be important in reliability studies, it does not ensure that primary frequency control is available in real time operations. TOP-003-4 does not require consistent, realistic, and reliable Governor settings; it only allows Transmission Operators and Balancing Authorities to receive information about Governor settings implemented by the generator.

Likes 0	
Dislikes 0	

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF

Answer	No
Document Name	

Comment

Southern Indiana Gas & Electric Company (SIGE) does not support deleting the entirety of Requirement R7. SIGE recommends removing the BA notification from Requirement R7 and maintaining the minimum deadband and droop settings within this Reliability Standard.

Likes 0	
Dislikes 0	

Response

Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Goi, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD / BANC

Answer	No
Document Name	

Comment

SMUD and BANC feel that the purpose of NERC Reliability Standard TOP-003, Operational Reliability Data is only to request data, not define data. Therefore, the proposed Requirement R7 in Draft Version 1 of proposed BAL-003-3 is still needed and

should be changed so that the Balancing Authority can request the Generator Owner to set the droop and deadband to a specific value.	
Likes 0	
Dislikes 0	
Response	
Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2	
Answer	No
Document Name	
Comment	
ERCOT supports the comments submitted by the SRC and adopts them as its own. ERCOT particularly emphasizes the SRC's comments with regard to the issues posed by relying on TOP-003-4 in lieu of proposed R7.	
Likes 0	
Dislikes 0	
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	No
Document Name	
Comment	
We need minimum performance requirements specified in the NERC standard, for continent wide consistency, with respect to droop settings and deadband implementation.	
Likes 0	
Dislikes 0	
Response	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC	
Answer	No
Document Name	
Comment	

WECC agrees that the requirement to "report" is redundant. However, the requirement to maintain a minimum droop setting is still valuable and is not addressed anywhere else. WECC suggests that a requirement for a minimum droop setting be included somewhere, perhaps in the new R5 requirement. WECC has a Regional Criterion that addresses droop settings, but it is not mandatory and is not applicable outside of the Western Interconnection.

Likes 0	
Dislikes 0	

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer	No
Document Name	

Comment

While TOP-003-5 R2 does give the BA the authority to request governor droop and deadband settings, there is no specific requirement for the BA to ask for that information if proposed BAL-003-3 R7 is removed. Furthermore, there would be no requirement for the GO to set its droop and deadband settings in a certain way.

Likes 0	
Dislikes 0	

Response

Alan Kloster - Alan Kloster On Behalf of: Jennifer Flandermeyer, Evergy, 3, 6, 5, 1; Jeremy Harris, Evergy, 3, 6, 5, 1; Kevin Frick, Evergy, 3, 6, 5, 1; Marcus Moor, Evergy, 3, 6, 5, 1; - Alan Kloster

Answer	No
Document Name	

Comment

Evergy supports and incorporates by reference the comments of the MRO NSRF for questions #2.

Likes 0	
Dislikes 0	

Response

Elizabeth Davis - Elizabeth Davis On Behalf of: Thomas Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis, Group Name ISO/RTO Standards Review Committee

Answer	No

Document Name	
Comment	

The SRC does not support the removal of Requirement R7 from Draft Version 1. This requirement is directly related to Draft Version 2, Requirement R5. Failure to require specific droop and deadband settings of the resource Governor could lead to inadequate and ineffective frequency response to arrest abnormal frequency deviations if Governors are set to unsatisfactory levels. In order to meet Area Control Error (ACE) obligations, Balancing Authorities must have some assurance that a sufficient number of generators have appropriate frequency response. This is of particular concern for independent Balancing Authorities; those Balancing Authorities with affiliated generators may have less concern and risk.

The SRC recommends that the drafting team add a Requirement consistent with FERC Order 842, paragraph 70, which addresses required droop and deadband settings for newly interconnecting generating facilities, the format of which could be similar to BAL-001-TRE-2 R6, which requires specific droop and deadband settings unless the Balancing Authority directs otherwise.

TOP-003-4 does not provide an avenue for requiring specific Governor settings; it is a reporting requirement that allows Balancing Authorities to acquire the settings information. While this information can be important in reliability studies, it does not ensure that primary frequency control is available in real time operations. TOP-003-4 does not require consistent, realistic, and reliable Governor settings; it only allows Transmission Operators and Balancing Authorities to receive information about Governor settings implemented by the generator.

Likes 0	
Dislikes 0	
Response	
Lori Frisk - Allete - Minnesota Power, Inc. - 1	
Answer	No
Document Name	
Comment	

Minnesota Power agrees with MRO’s NERC Standards Review Forum’s (NSRF) comments.

Likes 0	
Dislikes 0	
Response	
Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO	
Answer	No
Document Name	
Comment	

SPP supports the comments submitted by the SRC and MRO NSRF	
Likes 0	
Dislikes 0	
Response	
Joseph Amato - Berkshire Hathaway Energy - MidAmerican Energy Co. - 3	
Answer	No
Document Name	
Comment	
MidAmerican supports MRO NSRF comments. These propose a desirable modification if the ballot does not pass.	
Likes 0	
Dislikes 0	
Response	
Harishkumar Subramani Vijay Kumar - Independent Electricity System Operator - 2	
Answer	No
Document Name	
Comment	
The IESO believes that it is an important performance requirement and the standard should specify the required droop and deadband settings of the resource Governor*. TOP-003 only governs the collection of the droop/deadband data; however, it does not specify performance criteria. As such, there is value in maintaining existing requirement*	
Likes 0	
Dislikes 0	
Response	
Joseph Gatten - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	No
Document Name	
Comment	

Xcel Energy supports the comments of the MRO NSRF.	
Likes 0	
Dislikes 0	
Response	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	Yes
Document Name	
Comment	
We agree that the BA's data specifications for the GO are already covered under TOP-003-4. BAs should consider whether to add this information on Governor droop and deadband settings to their TOP-003 data specifications if not already being collected.	
Likes 0	
Dislikes 0	
Response	
Alison MacKellar - Constellation - 5	
Answer	Yes
Document Name	
Comment	
Constellation agrees with the deletion of proposed Requirement R7 based on possible duplication under TOP-003-4 Requirement R2. Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Sabrina Martz - Platte River Power Authority - 6	
Answer	Yes
Document Name	

Comment	
Although Platte River is not a BA, we do agree with the proposed deletion and inclusion for the current draft.	
Likes 0	
Dislikes 0	
Response	
Kinte Whitehead - Exelon - 3	
Answer	Yes
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	Yes
Document Name	
Comment	

Avista agrees that the Balancing Authority has the ability to request data regarding generator droop and deadband settings. Avista also believes that these settings of the governor can be specified in the governing interconnection agreement. Addressing these settings in the interconnection agreement privides the flexibility in these settings to address any issues at an individual facility.	
Likes 0	
Dislikes 0	
Response	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	Yes
Document Name	
Comment	
WEC Energy Group supports EEI's comments.	
Likes 0	
Dislikes 0	
Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI does not oppose the deletion of the Draft 1 proposed Requirement R7 from BAL-003-3.	
Likes 0	
Dislikes 0	
Response	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	

BPA agrees with the deletion. BPA can enforce a droop and dead-band requirement within its interconnection requirements as a TOP. BPA interconnection requirements, paired with the newly proposed BAL-003 R5, make it clear and enforceable that all newly connecting generators be frequency responsive.

Likes 0	
Dislikes 0	

Response

Lindsey Mannion - ReliabilityFirst - 10

Answer	Yes
Document Name	

Comment

RF agrees with the deletion of the proposed Requirement R7 and concurs with the SDT's reasoning presented above.

Likes 0	
Dislikes 0	

Response

Michael Johnson - Pacific Gas and Electric Company - 1,3,5 - WECC, Group Name PG&E All Segments

Answer	Yes
Document Name	

Comment

PG&E agrees with the North American Generator Forum (NAGF) input that the Balancing Authority (BA) already has the ability to request this information from the Generator Owner (GO) under TOP-003-4 and the proposed new requirement is unnecessary and potentially duplicative. PG&E indicates the request for this information should be removed from Requirement R7 as noted by the SDT.

Likes 0	
Dislikes 0	

Response

Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company

Answer	Yes
Document Name	

Comment
Southern Company supports comments submitted by EEI.

Likes 0	
Dislikes 0	

Response

Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
Answer	Yes
Document Name	

Comment
None.

Likes 0	
Dislikes 0	

Response

Kimberly Turco - Constellation - 6	
Answer	Yes
Document Name	

Comment
Constellation agrees with the deletion of proposed Requirement R7 based on possible duplication under TOP-003-4 Requirement R2. Kimberly Turco on behalf of Constellation Segments 5 and 6.

Likes 0	
Dislikes 0	

Response

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power	
Answer	Yes

Document Name	
Comment	
Tacoma Power supports deletion of the proposed Requirement R7. If Requirement R7 is added back into the BAL-003 Standard, then Tacoma Power recommends including an exclusion for mechanical governors. It is difficult to fully validate the deadband and droop for a mechanical governor.	
Likes 0	
Dislikes 0	
Response	
Casey Perry - PNM Resources - 1,3 - WECC	
Answer	Yes
Document Name	
Comment	
PNM supports EEI's comments regarding question 2. PNM agrees with the deletion of BAL-003-3 R7 from Draft 1 and maintaining reference to minimum governor settings within the BAL-003-3 standard.	
Likes 0	
Dislikes 0	
Response	
Micah Runner - Black Hills Corporation - 1	
Answer	Yes
Document Name	
Comment	
Black Hills Corporation agrees with the deletion & the proposed.	
Likes 0	
Dislikes 0	
Response	
Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	Yes

Document Name	
Comment	
Black Hills Corporation agrees with the deletion & the proposed.	
Likes 0	
Dislikes 0	
Response	
Sheila Suurmeier - Black Hills Corporation - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Black Hills Corporation agrees with the deletion & the proposed.	
Likes 0	
Dislikes 0	
Response	
Claudine Bates - Black Hills Corporation - 6	
Answer	Yes
Document Name	
Comment	
Black Hills Corporation agrees with the deletion & the proposed.	
Likes 0	
Dislikes 0	
Response	
Karla Weaver - Public Utility District No. 2 of Grant County, Washington - 4	
Answer	Yes
Document Name	
Comment	

GCPD agrees that this proposed requirement is not needed in the standard because it is duplicative. The information can already be requested in a separate standard.	
Likes 0	
Dislikes 0	
Response	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
The NAGF agrees that the Balancing Authority already has the ability to request such information from their Generator Owners under TOP-003-4, and proposing a new requirement under BAL-003 was unnecessary and possibly duplicative of TOP-003-4.	
Likes 1	LaKenya Vannorman, N/A, Vannorman LaKenya
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
None.	
Likes 0	
Dislikes 0	
Response	
Nazra Gladu - Manitoba Hydro - 1	
Answer	Yes
Document Name	
Comment	

Manitoba Hydro supports the removal of a portion of the language in R7, Draft Version 1 that dealt with notifications from the Generator Owner to its Balancing Authority. However, Manitoba Hydro does not support the removal of requirement R7 from Draft Version 1 in its entirety. Manitoba Hydro proposes to keep the required droop and deadband settings of the Governor necessary to support frequency response and combine it with the new draft version II R5 as stated in our response to question 3.

Likes 0	
Dislikes 0	

Response

Jessica Lopez - APS - Arizona Public Service Co. - 3

Answer	Yes
Document Name	

Comment

AZPS supports the deletion of proposed Requirement R5 from Draft Version 1 of proposed BAL-003-3 as it is redundant to TOP-003-4 R4.

Likes 0	
Dislikes 0	

Response

David Jendras Sr - Ameren - Ameren Services - 3

Answer	Yes
Document Name	

Comment

Likes 0	
Dislikes 0	

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators

Answer	Yes
Document Name	

Comment

Likes 0	
Dislikes 0	
Response	
James Mearns - James Mearns On Behalf of: Jeremy Lawson, Northern California Power Agency, 4, 6, 3, 5; Marty Hostler, Northern California Power Agency, 4, 6, 3, 5; Michael Whitney, Northern California Power Agency, 4, 6, 3, 5; - James Mearns	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jennifer Blair - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF, Group Name PPL NERC Registered Affiliates	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Diana Torres - Imperial Irrigation District - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dave Krueger - SERC Reliability Corporation - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karen Weaver - Tallahassee Electric (City of Tallahassee, FL) - 5 - SERC	
Answer	Yes
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 NPCC RSC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Anna Lavik - Puget Sound Energy, Inc. - 1,3,5,6, Group Name BAL-003	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rebecca Zahler - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD Voters	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Adrian Raducea - DTE Energy - Detroit Edison Company - 5, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Junji Yamaguchi - Hydro-Quebec (HQ) - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Wendy Kalidass - U.S. Bureau of Reclamation - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
James Keele - Entergy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kenya Streeter - Edison International - Southern California Edison Company - 6	
Answer	
Document Name	
Comment	
See comments submitted by the Edison Electric Institute	
Likes 0	
Dislikes 0	
Response	

3. As both of the previous proposed Requirements R5 and R7 from Draft Version I of proposed BAL-003-3 have been removed, the previously-proposed Requirement R6 now appears as proposed Requirement R5 in Draft Version II of proposed Reliability Standard BAL-003-3. This requirement has been revised to reflect the SDT's opinion of what constitutes a requirement that would benefit the electric system frequency control ability through the use of governors which are able to respond to frequency disturbances. Many comments from industry expressed a need for the allowance for exceptions. Exemptions have been added to the newly-proposed Requirement R5.

Industry comments also expressed concern that "controls" versus "modes" were used in the previously-proposed Requirement R6. This conflict in terms has been resolved in the changes made to the requirement.

Additionally, industry comments reflected disagreement with the interchangeable use of governor with "frequency responsive controls." This duplicative use has been removed in the current draft of the requirement. The notification part of the previously-proposed requirement has been removed.

The proposed requirement uses the Texas RE regional definition for the terms Governor and Primary Frequency Response used by Texas RE and proposes to add them to the NERC Glossary of Terms.

Draft Version I Requirement R6:

"*Each Generator Operator shall operate... "* Please refer to the Unofficial Comment Form for complete text.

Draft Version II Requirement R5:

"*Each Generator Operator shall operate..."* Please refer to the Unofficial Comment Form for complete text.

Do you support adding proposed Requirement R5 to BAL-003? Please provide the reasoning or justification for your position in the comments.

Thomas Foltz - AEP - 5	
Answer	No
Document Name	
Comment	

While AEP agrees with the overall substance of the proposed R5, we continue to have the same concerns that we provided in the previous ballot period. While a unit's frequency response controls (governor) may be in service, it may be operating in a mode or at a temperature/pressure limit that prevents the frequency response from being effective, as it may be impacted by other operating conditions. Clarification of "in service" or "out of service" may be required in consideration of the above. The Generator Operator will operate the governor to respond to frequency excursions, unless there is a legitimate operating condition that prevents normal Primary Frequency Response performance such as operation at or near auxiliary equipment operating limits (such as boiler feed pumps, condensate pumps, pulverizers, and forced draft fans).

The first bullet contradicts R7 of BAL-001-TRE which states "Governors shall operate each generating unit/generating facility that is connected to the interconnected transmission system with the Governor in service and responsive to frequency when the generating unit/generating facility is online and released for dispatch, unless the Generator Owner has a valid reason for operating with the Governor not in service and the Generator Operator has been notified that the Governor is not in service."

AEP thanks the SDT for the inclusion of bullet three which we believe will prove beneficial, however we recommend that it be augmented to provide additional clarity. Under certain operating conditions such as full load, and because the governor is

only disabled in one of two directions, bullet 3 is unclear as to whether the governor is in-service or out of service. AEP recommends that clarity be provided to indicate when the governor is operating within limits, and that it would be ineffective in one of the two directions. Consideration may be given to adding footnotes for startup and shutdown definitions similar to that provided in VAR-002.

AEP disagrees with the phrase “other control modes” within R5.1, as it could be interpreted too broadly and inconsistently. We recommend that R 5.1 instead state “Unless such operation adversely impacts the reliability of the Interconnection” as well as “Unless it has documented and communicated any known regulatory or equipment limitations preventing and such operation adversely impacts the reliability of the Interconnection.” Additional clarity could also be provided in the Technical Rationale Document regarding examples of control modes which are not allowed to override the Primary Frequency Response of the Governor.

Clarity should be provided in R5.1 as to whether it is a real time requirement, or instead, in the planning horizon.

R5 should be restructured to make it clear that the bulleted exceptions not only nullify R5, but R5.1 as well.

Consideration may be given to developing obligations which require the GOP to communicate, in real time, any known limitations to the BA for exclusion purposes.

The concerns above have collectively driven our decision to vote negative on the proposed revisions to BAL-003.

Likes 1	Seattle City Light, 4, Li Hao
Dislikes 0	

Response

Julie Hall - Entergy - 6, Group Name Entergy

Answer	No
Document Name	

Comment

Does the Drafting Team envision allowing the use of MOD-027 testing as proof for R5? Note that the NERC req for MOD-027 is 10 years.

Also, Entergy has concerns about Section “C” section 1.2 “*retain evidence of notification*…” – there is no explicit requirement language requiring notification and no Measure guidance on notifications. Recommend removing 3rd bullet “The Generator Operator shall retain evidence of notifications made to the Balancing Authority for the current year and the previous five (5) calendar years for Requirement R5 and Measure M5”

R5 currently does not allow for “exclusions” granted by the Transmission Planner. Some units cannot provide Primary Frequency Response, and Nuclear units are not typically configured to provide Primary Frequency Response.

Likes 0	
Dislikes 0	

Response

James Keele - Entergy - 3	
Answer	No
Document Name	
Comment	
Does the Drafting Team envision allowing the use of MOD-027 testing as proof for R5? Note that the NERC req for MOD-027 is 10 years. Also, Entergy has concerns about Section “C” section 1.2 “*retain evidence of notification*…” – there is no explicit requirement language requiring notification and no Measure guidance on notifications. Recommend removing 3rd bullet “The Generator Operator shall retain evidence of notifications made to the Balancing Authority for the current year and the previous five (5) calendar years for Requirement R5 and Measure M5” R5 currently does not allow for “exclusions” granted by the Transmission Planner. Some units cannot provide Primary Frequency Response, and Nuclear units are not typically configured to provide Primary Frequency Response.	
Likes 0	
Dislikes 0	
Response	

Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	
Comment	
Talen supports the comments of the NAGF	
Likes 0	
Dislikes 0	
Response	

Wendy Kalidass - U.S. Bureau of Reclamation - 5	
Answer	No
Document Name	
Comment	

Reclamation observes that some facilities currently operate by overriding the primary frequency control of the governors with very fast load controllers. Those entities will not be able to comply with the standard if requirement R5.1 is approved.

Likes 0	
Dislikes 0	

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer	No
Document Name	

Comment

FirstEnergy believes including 5.1 inhibiting the outer loop control would put the units in jeopardy and in risk of damage and recommends removing 5.1 from the proposed standard. Outer loop controls are already designed to affect the Primary Frequency Response.

While we appreciate the work of the Drafting Team, FirstEnergy cannot support this standard, Nonbinding Poll or the Implementation Plan with the inclusion of 5.1 in this proposal.

Likes 0	
Dislikes 0	

Response

Joseph Gatten - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer	No
Document Name	

Comment

Xcel Energy supports the comments of EEI.

Likes 0	
Dislikes 0	

Response

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer	No
Document Name	
Comment	

The NAGF does not support the proposed draft version II BAL-003 Requirement 5 for the following reasons:

a. Need to allow for the following exemptions:

i. Identification of a regulatory or equipment limitation. Specifically, nuclear generating units are not typically designed to provide primary frequency response. The turbine controls on most nuclear units (Boiling Water Reactors) are designed to maintain the internal steam pressure and are not intended to react to changes to the grid. There are some nuclear units (Pressurized Water Reactors) that do slightly respond; however, the NRC limits the range of operations that would potentially provide any primary frequency response. In addition, historically Transmission Planners typically do not include nuclear generating units in frequency response models.

ii. Some fossil units run in the valves-wide-open (VWO) mode (i.e. sliding pressure mode). Their governors are in the speed or frequency control mode as required by R5 of BAL-003-3, but when the grid frequency changes more power can be produced only through normal ramp-up, since there is no throttle reserve. OEM-recommended limits in this respect are often in the range of 3-6 MW/min, which does not meet the “immediate” criterion of NERC’s definition of PFR. These units were not designed to accommodate the thermal gradient-induced stresses of throttling and step-changes in output, and forcing them to adopt a different, untried control mode would be cost prohibitive.

iii. Combustion turbines operating in any type of base load or peak fire control mode. In these operating modes, combustion turbines are restricted from increasing load due to any drop in system frequency.

iv. Sub-requirement 5.1 speaks to outer loop control, typically via the generation facility Distributed Control System (DCS) responding to a MW setpoint from the Balancing Authority. Some legacy governor controls are limited in providing frequency inputs to an outer loop control and therefore may not be able to prevent the outer loop from attempting to override the primary frequency control.

b. The NAGF recommends that the second bullet proposed for the draft version II, Requirement 5 be revised as follows:

“There are system operating and/or generator equipment conditions that are incompatible with the generating unit/generating facility operating the Governor in speed/frequency control mode.”

Likes 1	LaKenya Vannorman, N/A, Vannorman LaKenya
Dislikes 0	
Response	
Casey Perry - PNM Resources - 1,3 - WECC	
Answer	No
Document Name	
Comment	

PNM does not agree with R5 as written in BAL-003-3 R5 in Draft 2. PNM is in support of EEI's comments regarding this requirement. PNM agrees with the additions to BAL-003-3 R5 from Draft 2. PNM also agrees with adding GOP as a functional entitiy and assigning responsibility to R5 to the GOP.

Likes 0	
Dislikes 0	

Response

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power

Answer	No
Document Name	

Comment

Tacoma Power supports most of the proposed R5 language. Tacoma Power is concerned with the implementation of R5.1 and needs clarification regarding when the frequency response ends.

Likes 0	
Dislikes 0	

Response

Kimberly Turco - Constellation - 6

Answer	No
Document Name	

Comment

Constellation aligns with the NAGF comments on the response to Question 3. Requirement R5 needs to allow for specific exemptions due to regulatory or equipment limitations. Specifically, nuclear generating units are not typically designed to provide primary frequency response. The turbine controls on most nuclear units (Boiling Water Reactors) are designed to maintain the internal steam pressure and are not intended to react to changes to the grid. There are some nuclear units (Pressurized Water Reactors) that do slightly respond; however, the NRC limits the range of operations that would potentially provide any primary frequency response. In addition, historically Transmission Planners typically do not include nuclear generating units in frequency response models.

Kimberly Turco on behalf of Constellation Segments 5 and 6.

Likes 0	
Dislikes 0	

Response	
Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company	
Answer	No
Document Name	
Comment	
Southern Company supports comments submitted by EEI.	
Likes 0	
Dislikes 0	
Response	
Michael Johnson - Pacific Gas and Electric Company - 1,3,5 - WECC, Group Name PG&E All Segments	
Answer	No
Document Name	
Comment	
PG&E agrees with the North American Generator Forum (NAGF) input on not supporting the modification. Per the NAGF input, the three (3) listed exceptions under the NAFG's item "a" and the update of the second bullet per the NAGF's item "b" should be considered.	
Likes 0	
Dislikes 0	
Response	
Alan Kloster - Alan Kloster On Behalf of: Jennifer Flandermeyer, Evergy, 3, 6, 5, 1; Jeremy Harris, Evergy, 3, 6, 5, 1; Kevin Frick, Evergy, 3, 6, 5, 1; Marcus Moor, Evergy, 3, 6, 5, 1; - Alan Kloster	
Answer	No
Document Name	
Comment	
Evergy supports and incorporates by reference the comments of the Edison Electric Institute (EEI) for question #3.	
Likes 0	
Dislikes 0	

Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	No
Document Name	
Comment	

EEI agrees in part with the proposed changes in Draft 2 of BAL-003-3, Requirement R5 (previously identified as Requirement R6 in BAL-003, Draft 1) and appreciates the addition of the exceptions that were added to this Requirement. However, EEI is of the opinion there is also a need for some exceptions to subpart 5.1 because some resources have technical feasibility issues which could interfere with their ability to "not override the Primary Frequency Response of the Governor" in some other control modes. As an example, nuclear units, units running with their valves wide open, and units like windfarms that are already running full out will not be able to respond to provide frequency control in the "immediate" manner described in the new NERC Glossary definition of Primary Frequency Response. To address this concern, we offer the following exceptions to Subpart 5.1 for consideration:

- Nuclear units; or
- Generators that are running with their valves fully open; or
- Any resources that are operating without excess headroom; or
- Or other resource specific conditions as discussed and approved by the responsible BA

Likes 0	
Dislikes 0	
Response	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	No
Document Name	
Comment	

WEC Energy Group supports EEI's comments.

Likes 0	
Dislikes 0	
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	No
Document Name	

Comment
As drafted, the requirement R5 Part 5.1 – “Other control modes, such as outer loop control, shall not override the Primary Frequency Response of the Governor.” is not subject to the exemptions above (i.e. second bullet), hence potential for noncompliance. The “outer loop control” is not a defined term in the Glossary of Terms Used in NERC Reliability Standards, which can lead to non-compliance findings in the cases where the Balancing Authority provides such approval (i.e. Boiler Pressure Control mode – Reactor leading – T/G following)

Likes 0	
Dislikes 0	

Response

Daniel Gacek - Exelon - 1	
Answer	No
Document Name	

Comment
Exelon supports the comments submitted by the EEI.

Likes 0	
Dislikes 0	

Response

Kinte Whitehead - Exelon - 3	
Answer	No
Document Name	

Comment
Exelon supports the comments submitted by the EEI.

Likes 0	
Dislikes 0	

Response

Jennifer Blair - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF, Group Name PPL NERC Registered Affiliates	
Answer	No

Document Name	
Comment	
No, this requirement is unnecessary. The FR in all Interconnections has either improved or stabilized since BAL-003 became effective, so there is no reason to require GOs to take action. We are in support of changes to the Reliability Standard that improve efficiency, such as the change in the Form 1 and mechanism for requesting data. But we do not support creating additional compliance burden when the need to do so simply has not been demonstrated.	
Likes 1	Seattle City Light, 4, Li Hao
Dislikes 0	
Response	
Alison MacKellar - Constellation - 5	
Answer	No
Document Name	
Comment	
Constellation aligns with the NAGF comments on the response to Question 3. Requirement R5 needs to allow for specific exemptions due to regulatory or equipment limitations. Specifically, nuclear generating units are not typically designed to provide primary frequency response. The turbine controls on most nuclear units (Boiling Water Reactors) are designed to maintain the internal steam pressure and are not intended to react to changes to the grid. There are some nuclear units (Pressurized Water Reactors) that do slightly respond; however, the NRC limits the range of operations that would potentially provide any primary frequency response. In addition, historically Transmission Planners typically do not include nuclear generating units in frequency response models. Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	No
Document Name	
Comment	
Comments: While the intent of this requirement seems to make sense on the surface, we believe that it has several issues barring it's mplementation. To begin with, how does a Responsible Entity prove compliance? As stated in M5:	

“Examples of suitable evidence may include, but is not limited to, performance testing, records showing Primary Frequency Response of a unit to frequency disturbances, appropriate documentation and/or control system settings that show the Governor is enabled (droop, deadband, control mode enable/disable, etc., as applicable). RequirementR5 does not require a Generator to operate with headroom, as stated in FERC Order No. 842, P109.”

None of the examples provided in M5 prove compliance with the proposed Requirement R5.

Performance testing merely proves that the unit has a Governor not that it was in service while the unit was operating. Furthermore, this type evidence seems duplicative of MOD-027 R2.

Similarly, documentation and/or control system settings show that the unit has a Governor not that it was in service during unit operation.

Additionally, records showing Primary Frequecy Response of a unit to frequency disturbances merely proves that the Governor was in service during a singular event. Furthermore, if the entity did not experience any frequency disturbances during the audit period then this type of evidence is not available.

Lastly, the GOP is the Responsible Entity for the proposed Requirement R5; however, in many (if not most) cases, the GO (i.e. not the GOP) is responsible for both performance testing and control system settings. Thus the GOP is left with the difficult choice of either hoping to capture records showing Primary Frequency Response of a unit to a frequency disturbance or requesting evidence from the GO to prove that the GOP is compliant.

The question then becomes “what are we trying to accomplish with this requirement?” Are we trying to ensure that a unit has a Governor and that it is implemented properly? If so, then does MOD-027 not already cover this requirement? Or are we simply trying to ensure that the Governor is in service during unit operations? If this is the goal, then we believe a better approach would be to incorporate BAL-001-TRE-2 R8.

In summary, we believe that as currently written, the proposed Requirement R5 does little if not nothing to improve the reliability of the BES while at the same time placing an inordinate amount of burden on the GOP to prove compliance.

Likes 1	Seattle City Light, 4, Li Hao
Dislikes 0	

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Answer	No
Document Name	

Comment

We appreciate the SDT making proposed edits to address exceptions, but believe none of the three bulleted exceptions would cover some of our units. For example our base load nuclear generating units, while equipped with a Governor, use load control once synchronized to the grid rather than speed or frequency control. We recommend the SDT refer to MOD-027-1, Attachment 1, Row 7. The MOD-027-1 standard allows Generator Owners (GO) to convey information (a “written statement”) to their Transmission Planner (TP) whenever a unit does not utilize a frequency responsive control mode

operation. Could Generator Operators use their affiliated GO's written statements provided to the TP as exception evidence for R5?

As an alternative to addressing exceptions within the R5 language, the SDT should consider whether adding a Facilities section to the standard would add greater clarity (i.e., "4.2. Facilities"). This section could be used to specify the generating Facilities subject to compliance with R5, and the bulleted exceptions removed from the Requirement.

As currently worded, would R5 apply to inverter connected generators that use active power/frequency control?

Likes 0	
Dislikes 0	

Response

David Jendras Sr - Ameren - Ameren Services - 3

Answer	No
Document Name	

Comment

Ameren supports EEI's and NAGF's comments on this question.

Likes 0	
Dislikes 0	

Response

Jessica Lopez - APS - Arizona Public Service Co. - 3

Answer	Yes
Document Name	

Comment

AZPS supports the proposed Requirement 5 from Draft Version 2 of proposed BAL-003. The only question for the Standard Drafting Question- Are BESS intended to be included or not included within R5?

Likes 0	
Dislikes 0	

Response

Nazra Gladu - Manitoba Hydro - 1

Answer	Yes

Document Name	
Comment	
Manitoba Hydro supports adding the newly proposed requirement R5 to BAL-003 and suggests the addition of required droop and deadband settings for the Governor to new draft II requirement R5, as follows: **R.5** *Each Generator Operator shall operate each generating unit/generating facility connected to an Interconnection with its Governor* ***"in operation having a droop of no more than five (5) percent and a deadband not more than 0.036 Hz,"*** *unless: [Violation Risk Factor = Medium] [Time Horizon = Real-time Operations] .....*	
Likes 0	
Dislikes 0	
Response	
Karla Weaver - Public Utility District No. 2 of Grant County, Washington - 4	
Answer	Yes
Document Name	
Comment	
GCPD agrees that this proposed requirement be added to the standard. GCPD will continue to operate our generating units with frequency control.	
Likes 0	
Dislikes 0	
Response	
Claudine Bates - Black Hills Corporation - 6	
Answer	Yes
Document Name	
Comment	
Black Hills Corporation supports the proposed.	
Likes 0	
Dislikes 0	
Response	

Sheila Suurmeier - Black Hills Corporation - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Black Hills Corporation supports the proposed.	
Likes 0	
Dislikes 0	
Response	
Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	Yes
Document Name	
Comment	
Black Hills Corporation supports the proposed.	
Likes 0	
Dislikes 0	
Response	
Micah Runner - Black Hills Corporation - 1	
Answer	Yes
Document Name	
Comment	
Black Hills Corporation supports the proposed.	
Likes 0	
Dislikes 0	
Response	
Harishkumar Subramani Vijay Kumar - Independent Electricity System Operator - 2	

Answer	Yes
Document Name	
Comment	
Outer control loops are becoming increasingly problematic and hence, adding the proposed requirement is expected to eliminate ambigiouty regarding the expected performance requirement for governors coupled with these control loops	
Likes 0	
Dislikes 0	
Response	

Joseph Amato - Berkshire Hathaway Energy - MidAmerican Energy Co. - 3

Answer	Yes
Document Name	
Comment	
MidAmerican supports MRO NSRF comments. These propose a desirable modification if the ballot does not pass.	
Likes 0	
Dislikes 0	
Response	

Rebecca Zahler - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD Voters

Answer	Yes
Document Name	
Comment	
This revision resolves our previous concerns with confusion around the terms frequency control and governor. Clarity may be added to the second bullet by inserting, “or determined unnecessary or undesirable by the BA”.	
Likes 0	
Dislikes 0	
Response	

Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF

Answer	Yes

Document Name	
Comment	
None.	
Likes 0	
Dislikes 0	
Response	
Elizabeth Davis - Elizabeth Davis On Behalf of: Thomas Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis, Group Name ISO/RTO Standards Review Committee	
Answer	Yes
Document Name	
Comment	

The SRC agrees with and supports the intent of the proposed Requirement R5 to BAL-003, however, offers the following suggestion for improvement. Retain the intent of Part 5.1 to ensure Governors operate and respond to arrest abnormal frequency deviations, as a primary function, independent of unit setpoints and in whatever direction is required; however, modify Part 5.1 to ensure the continued support of other control modes such as Automatic Generation Control (AGC) as a second order function. To accomplish this, the SRC proposes the below modification to Part 5.1:

5.1. Other control modes, such as outer loop control, shall not override the Primary Frequency Response of the Governor. Primary Frequency Response will operate simultaneously with other control modes and not replace other control modes.

The intent of SRC recommended change to requirement 5.1 is to ensure electronic governors (e.g., such as those used with IBRs) are programmed correctly to provide PFR on top of other control modes e.g. AGC setpoint, and not replace other control modes. Alternatively, requirement 5.1 can be kept as is and the clarification can be made in the Technical Rationale.

-
    - Proposed changes to the Technical Rationale:

Rationale for Requirement R5, Part 5.1

Requirement R5, Part 5.1 requires that units with Governors operate with the Governors in service and that other controls do not override any Primary Frequency Response that is provided. The intent of Part 5.1 is to ensure electronic Governors (e.g., those used with Inverter-Based Resources) operate and respond to arrest abnormal frequency deviations, as a primary function, independent of unit setpoints and in whatever direction is required; however, Part 5.1 is not intended to replace other control modes. Rather, the intent is to ensure the continued support of other control modes such as Automatic Generation Control (AGC) as a second order function.

The SRC also requests that the obligation for Generator Operators to notify the Balancing Authority as soon as practical but within 30 minutes of the discovery of a Governor status change (in- service, out- of- service) of a Governor be kept in the Standard. This requirement could be modeled after BAL-001-TRE-2 Requirement 8 and would be consistent with notification requirements of Generator Operators for AVR status in VAR-002-4.1 Requirement 1. The SRC does not believe it should be an option as part of the TOP or IRO Data Specifications as suggested.

Likes 0	
Dislikes 0	
Response	
Lindsey Mannion - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	
RF supports the addition of the proposed Requirement R5 with the listed exemptions and concurs with the SDT's reasoning presented above.	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
Texas RE recommends the requirement include notification to BA in a timely manner after the discovery of a Governor status change. It's not clear how BA will determine the unit's operating incompatibility detailed in the second bullet without some notification timing criteria. The SDT could consider including the notification language in the requirement similar to Draft I R6—".. *as soon as practical but within 30 minutes of the discovery of a Governor status change (in-service, out-of-service)".* As currently drafted the BA will not necessarily know which units are in what mode and need to be changed to ensure reliability.	
Likes 0	
Dislikes 0	
Response	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	

BPA supports this new Requirement 5 to BAL-003 and the use of ERCOT's definition of Governor and Primary Frequency Response.

With the ERCOT definitions, the new R5 makes clear that all generating units should provide Primary Frequency Response no matter if synchronous, or inverter based. BPA does not need the 30 minute notification as proposed in the Draft I version of R6.

BPA recognizes that there is no timeframe given for applicability in this new requirement - - meaning that all resources will either have to turn on their Governors and provide Primary Frequency Response, or will have to seek an exception from the Balancing Authority.

Likes 0	
Dislikes 0	

Response

Mike Magruder - Avista - Avista Corporation - 1

Answer	Yes
Document Name	

Comment

Avista supports a common definition of Governor and Primary Frequency Response, and supports the definitions used the draft standard. Avista also supports the requirement for generating units/facilities to be operated with Governors active and in service. Requirement 5.1 is a needed addition to ensure that Governor response to a frequency deviation produces the expected Primary Frequency Response.

Likes 0	
Dislikes 0	

Response

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC

Answer	Yes
Document Name	

Comment

WECC supports the addition, but suggests that perhaps this would be a good place to include a inimum droop setting requirement.

Likes 0	
Dislikes 0	

Response	
Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2	
Answer	Yes
Document Name	
Comment	
ERCOT supports the comments submitted by the SRC and adopts them as its own.	
Likes 0	
Dislikes 0	
Response	
Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Goi, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD / BANC	
Answer	Yes
Document Name	
Comment	
SMUD and BANC believe there are two important scenarios missing from the proposed Requirement R5: 1) the generating unit/generating facility not equipped with a Governor shall receive a written approval from the Balancing Authority, and 2) the Balancing Authority can issue a written exemption to the generating unit/generating facility to disable its Governor.	
Likes 0	
Dislikes 0	
Response	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF	
Answer	Yes
Document Name	
Comment	
Southern Indiana Gas & Electric Company supports adding the proposed Requirement R5 to the proposed BAL-003.	
Likes 0	

Dislikes 0	
Response	
Junji Yamaguchi - Hydro-Quebec (HQ) - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Adrian Raducea - DTE Energy - Detroit Edison Company - 5, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Lori Frisk - Allete - Minnesota Power, Inc. - 1	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Anna Lavik - Puget Sound Energy, Inc. - 1,3,5,6, Group Name BAL-003	
Answer	Yes
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 NPCC RSC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karen Weaver - Tallahassee Electric (City of Tallahassee, FL) - 5 - SERC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Dave Krueger - SERC Reliability Corporation - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Diana Torres - Imperial Irrigation District - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Sabrina Martz - Platte River Power Authority - 6	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
James Mearns - James Mearns On Behalf of: Jeremy Lawson, Northern California Power Agency, 4, 6, 3, 5; Marty Hostler, Northern California Power Agency, 4, 6, 3, 5; Michael Whitney, Northern California Power Agency, 4, 6, 3, 5; - James Mearns	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Timothy Singh, Salt River Project, 3, 5, 1, 6; - Israel Perez	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	
Document Name	
Comment	
BC Hydro is supportive of the intent of Requirement R5 and in agreement that under specific conditions a generating unit may not operate with its governor in speed or frequency control mode.	

BC Hydro suggest that Requirement R5 also include exemption criteria that account for environmental or (dam) safety considerations.	
Likes 0	
Dislikes 0	
Response	
Michael Jones - National Grid USA - 1	
Answer	
Document Name	
Comment	
RE: "generating unit/generating facility" wording: Please consider adding a Facilities Section to Section 4 Applicability. This would avoid confusion regarding applicable facilities. For reference, please see project 2021-02 Modification to VAR-002 where section 4.2 references "applicable Facility" will mean any generating Facility as defined by the Bulk Electric System. In addition, please consider formatting the requirement and exemptions similiar to VAR-002.	
Likes 0	
Dislikes 0	
Response	
Kenya Streeter - Edison International - Southern California Edison Company - 6	
Answer	
Document Name	
Comment	
See comments submitted by the Edison Electric Institute	
Likes 0	
Dislikes 0	
Response	

4. Concerns related to the current performance metric for Balancing Authorities, where the median performance of all Operating Year selected events is used to determine compliance, potentially allows for an entity to perform well in the first half of the year and then "detune" their performance for the second half of the year. Discussions by the SDT concluded that the after-the-fact methodology with a "median" performance metric is the preferred method to measure performance due to the impact that outlier events have on a "mean" calculation.

Do you agree with the after-the-fact methodology with a "median" performance metric, or do you think a "mean" performance metric would be a better method to measure performance? Please provide the reasoning or justification for your position in the comments.

Kenya Streeter - Edison International - Southern California Edison Company - 6	
Answer	
Document Name	
Comment	
See comments submitted by the Edison Electric Institute	
Likes 0	
Dislikes 0	
Response	

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC	
Answer	
Document Name	
Comment	
No comment.	
Likes 0	
Dislikes 0	
Response	

Michael Johnson - Pacific Gas and Electric Company - 1,3,5 - WECC, Group Name PG&E All Segments	
Answer	
Document Name	
Comment	

PG&E is not providing input to Q4 since we are not a Balancing Authority (BA).	
Likes 0	
Dislikes 0	
Response	
Kimberly Turco - Constellation - 6	
Answer	
Document Name	
Comment	
Kimberly Turco on behalf of Constellation Segments 5 and 6.	
Likes 0	
Dislikes 0	
Response	
Wendy Kalidass - U.S. Bureau of Reclamation - 5	
Answer	
Document Name	
Comment	
Reclamation is not registered as a Balancing Authority and does not have a preference for the method to measure performance.	
Likes 0	
Dislikes 0	
Response	
Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Timothy Singh, Salt River Project, 3, 5, 1, 6; - Israel Perez	
Answer	Median
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
David Jendras Sr - Ameren - Ameren Services - 3	
Answer	Median
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF	
Answer	Median
Document Name	
Comment	
Southern Indiana Gas & Electric Company agrees with a “median” performance metric.	
Likes 0	
Dislikes 0	
Response	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	Median
Document Name	
Comment	
This data is prone to having outliers in the results. We agree with the SDT’s conclusion that Median is the best approach, since the outliers can skew the results.	
Likes 0	
Dislikes 0	

Response	
Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Goi, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD / BANC	
Answer	Median
Document Name	
Comment	
SMUD and BANC support a “median” performance metric.	
Likes 0	
Dislikes 0	
Response	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	Median
Document Name	
Comment	
In the field of statistics It is best to use the median when the distribution is either skewed or there are outliers present. Thus, if the intent is to gauge performance while excluding the outliers, a median performance metric is preferred.	
Likes 0	
Dislikes 0	
Response	
Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2	
Answer	Median
Document Name	
Comment	
ERCOT supports the comments submitted by the SRC and adopts them as its own.	
Likes 0	
Dislikes 0	

Response	
Jennifer Blair - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF, Group Name PPL NERC Registered Affiliates	
Answer	Median
Document Name	
Comment	
There is no evidence that any entity is "detuning" their governors.	
Likes 0	
Dislikes 0	
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	Median
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kinte Whitehead - Exelon - 3	
Answer	Median
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Daniel Gacek - Exelon - 1	

Answer	Median
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Median
Document Name	
Comment	
NA - OPG is not registered as a Balancing Authority.	
Likes 0	
Dislikes 0	
Response	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	Median
Document Name	
Comment	
Avista’s experience has indicated that the present “median” requirement has produced the results that were intended for BAL-003. The FRAA indicates that frequency response has been stable or increasing since BAL-003 R1 was implemented in 2017. Any particular measure, whether mean or average, will have its weaknesses and strengths. Experience has shown that the median measure has performed as intended, with no evidence of detuning at given times of the year.	
Likes 0	
Dislikes 0	
Response	
Diana Torres - Imperial Irrigation District - 6	

Answer	Median
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	Median
Document Name	
Comment	
WEC Energy Group supports EEI's comments.	
Likes 0	
Dislikes 0	
Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Median
Document Name	
Comment	
EEI agrees that the after the fact methodology with a “median” performance metric would be a superior method of assessing performance.	
Likes 0	
Dislikes 0	
Response	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	Median
Document Name	

Comment	
BPA does not think changing the performance metric from median to mean alleviates concerns that an entity can perform well in the first half of the year and then “detune” their performance for the second half of the year. BPA believes the best way to alleviate that concern is to increase the performance requirement from approximately 50% of the time (median) to something greater, such as 60-70%. We caution moving to a mean because it blurs the analysis of event per event pass/fail even more than using the median. If frequency response performance needs to be stabilized throughout the year, the best method will be to increase the percentage of events that are required for passing; moving to a mean takes us further away from this ability to stabilize performance. Also, in BPA’s case, the mean can inflate the annual performance metric. BPA has looked at several years of performance data in which using the average would result in a higher score than what the median provides.	
Likes 0	
Dislikes 0	
Response	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	Median
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karen Weaver - Tallahassee Electric (City of Tallahassee, FL) - 5 - SERC	
Answer	Median
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Median

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Alan Kloster - Alan Kloster On Behalf of: Jennifer Flandermeyer, Evergy, 3, 6, 5, 1; Jeremy Harris, Evergy, 3, 6, 5, 1; Kevin Frick, Evergy, 3, 6, 5, 1; Marcus Moor, Evergy, 3, 6, 5, 1; - Alan Kloster	
Answer	Median
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Lindsey Mannion - ReliabilityFirst - 10	
Answer	Median
Document Name	
Comment	
RF is not aware of evidence that the current “median” performance metric is ineffective and agrees with its continued use.	
Likes 0	
Dislikes 0	
Response	
Elizabeth Davis - Elizabeth Davis On Behalf of: Thomas Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis, Group Name ISO/RTO Standards Review Committee	
Answer	Median
Document Name	
Comment	

The SRC agrees that the current median-based performance metric functions as needed, and does not see a need to replace it with a mean-based metric.	
Likes 0	
Dislikes 0	
Response	
Lori Frisk - Allete - Minnesota Power, Inc. - 1	
Answer	Median
Document Name	
Comment	
Minnesota Power supports a “median” performance metric.	
Likes 0	
Dislikes 0	
Response	
Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company	
Answer	Median
Document Name	
Comment	
Southern Company supports comments submitted by EEI.	
Likes 0	
Dislikes 0	
Response	
Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
Answer	Median
Document Name	
Comment	

None.	
Likes 0	
Dislikes 0	
Response	
Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO	
Answer	Median
Document Name	
Comment	
SPP Supports a “Median” performance metric	
Likes 0	
Dislikes 0	
Response	
Rebecca Zahler - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD Voters	
Answer	Median
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power	
Answer	Median
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Joseph Amato - Berkshire Hathaway Energy - MidAmerican Energy Co. - 3	
Answer	Median
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Casey Perry - PNM Resources - 1,3 - WECC	
Answer	Median
Document Name	
Comment	
PNM is in agreement with using the "Median" performance metric.	
Likes 0	
Dislikes 0	
Response	
Harishkumar Subramani Vijay Kumar - Independent Electricity System Operator - 2	
Answer	Median
Document Name	
Comment	
provides consistency in the implementation of requirements	
Likes 0	
Dislikes 0	
Response	
Adrian Raducea - DTE Energy - Detroit Edison Company - 5, Group Name DTE Energy - DTE Electric	

Answer	Median
Document Name	
Comment	
To account for outlier events	
Likes 0	
Dislikes 0	
Response	
Micah Runner - Black Hills Corporation - 1	
Answer	Median
Document Name	
Comment	
Black Hills Corporation is not a BA.	
Likes 0	
Dislikes 0	
Response	
Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	Median
Document Name	
Comment	
Black Hills Corporation is not a BA.	
Likes 0	
Dislikes 0	
Response	
Sheila Suurmeier - Black Hills Corporation - 1,3,5,6	
Answer	Median
Document Name	

Comment	
Although Black Hills Corporation is not a BA.	
Likes 0	
Dislikes 0	
Response	
Claudine Bates - Black Hills Corporation - 6	
Answer	Median
Document Name	
Comment	
Black Hills Corporation is not a BA.	
Likes 0	
Dislikes 0	
Response	
Karla Weaver - Public Utility District No. 2 of Grant County, Washington - 4	
Answer	Median
Document Name	
Comment	
It is a better measure to show performance of frequency response involving multiple events. The mean value for performance could be skewed by outliers to improve or worsen a utilities frequency response.	
Likes 1	Seattle City Light, 4, Li Hao
Dislikes 0	
Response	
Joseph Gatten - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Median
Document Name	
Comment	

Xcel Energy supports the comments of EEI and MRO NSRF.	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Median
Document Name	
Comment	
FirstEnergy agrees that the after the fact methodology with a “median” performance metric would be a superior method of assessing performance.	
Likes 0	
Dislikes 0	
Response	
Nazra Gladu - Manitoba Hydro - 1	
Answer	Median
Document Name	
Comment	
Manitoba Hydro supports a “median” performance metric due to the impact that outlier events have on a “mean” calculation.	
Likes 0	
Dislikes 0	
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	Median
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Jessica Lopez - APS - Arizona Public Service Co. - 3	
Answer	Median
Document Name	
Comment	
AZPS supports the “median” performance metric as the best method to measure performance, as outlier events could have a greater impact on the calculation and therefore skew the performance more positively or negatively. AZPS does not agree with: “allows for an entity to perform well in the first half of the year and then “detune” their performance for the second half of the year”, as it is difficult for entities to predict second half of the year’s performance and do not see entities placing themselves at compliance risk.	
Likes 0	
Dislikes 0	
Response	
James Mearns - James Mearns On Behalf of: Jeremy Lawson, Northern California Power Agency, 4, 6, 3, 5; Marty Hostler, Northern California Power Agency, 4, 6, 3, 5; Michael Whitney, Northern California Power Agency, 4, 6, 3, 5; - James Mearns	
Answer	Mean
Document Name	
Comment	
Mean will highlight performance at the extremes, which should allow targeted improvements for the BA/GO/GOP exhibiting outlier performance.	
Likes 0	
Dislikes 0	
Response	
Anna Lavik - Puget Sound Energy, Inc. - 1,3,5,6, Group Name BAL-003	
Answer	Mean
Document Name	
Comment	

PSE thinks a mean performance metric would be a better method to measure performance.	
Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	Mean
Document Name	
Comment	
AEP supports the mean performance metric method, as it has already proven itself in practice within BAL-001-TRE.	
Likes 0	
Dislikes 0	
Response	

5. Please provide any other comments or feedback, which you haven't already provided, to the SDT related to the proposed modifications to the standard.

Thomas Foltz - AEP - 5	
Answer	
Document Name	
Comment	
R5 VSL: AEP is concerned by placement of "Generator is operating in a control mode that overrides the Governor response" within the Severe column for the reasons expressed in our response to question #3.	
Likes 0	
Dislikes 0	
Response	

Jessica Lopez - APS - Arizona Public Service Co. - 3	
Answer	
Document Name	
Comment	
Within the Evidence and Retention section 1.2 of BAL-003 Draft Version 2, AZPS respectfully requests the SDT to remove the third bullet which states: *The Generator Operator shall retain evidence of notifications made to the Balancing Authority for the current year and the previous five (5) calendar years for Requirement R5 and Measure M5.* Project 2017-01 modifications to proposed BAL-003 Draft Version 2, Requirement 5 does not require notifications from the GOP to the Balancing Authority and it appears this evidence retention addition was residual from Draft Version 1 Requirement 6 which required GOPs to notify the Balancing Authority. Additionally, as written in Draft Version 2 of proposed BAL-003, Section 1.2 bullet #3, the "five (5) calendar years…" extends beyond the evidence retention period since the last audit period of (3) years.	
Likes 0	
Dislikes 0	
Response	

Donald Lock - Talen Generation, LLC - 5	
Answer	

Document Name	
Comment	
Talen supports the comments of the NAGF	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	
Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	
Response	
Joseph Gatten - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	
Document Name	
Comment	
Xcel Energy supports the comments of EEI and MRO NSRF.	
Likes 0	
Dislikes 0	
Response	
Karla Weaver - Public Utility District No. 2 of Grant County, Washington - 4	
Answer	
Document Name	
Comment	

Attachment A includes additional language and GCPD opposes this new language to the attachment.

Balancing Authorities that form, merge or transfer load or resource must notify the ERO of the change in footprint and corresponding changes in allocation prior to the change such that the net obligation to the Interconnection remains the same and so that FBS and FRO can be adjusted.

Annually, the ERO reviews the load and resource data submitted for all Balancing Authorities for each Interconnection in the format requested by the ERO. After such annual review, the ERO will post the following information for each Balancing Authority for the upcoming year:

There is already a substantial lag time between when we submit data for NERC 714 and when the FRO and FBS is calculated. We already have the issue of the FRO and FBS not being based on data that is current. A footprint change is an additional consideration to calculate an accurate FRO and FBS but BA's should have the flexibility not to make this change if the footprint change is de minimis.

Grant almost always makes a de minimis BA footprint change on Jan. 1st each year. If the footprint change is 10% or less as determined by the BA, then the BA's involved would have the option amongst themselves to determine if their respective FRO and FBS should be recalculated while ensuring that the net obligation to the Interconnection remains the same.

Likes 0	
Dislikes 0	

Response

Junji Yamaguchi - Hydro-Quebec (HQ) - 5

Answer	
Document Name	

Comment

1. Consider defining "Target Business Date" in the standard or Technical Rationale.

2. Given that speed regulators are elaborate and have proportional, integral and derivative components, we suggest removing “proportional” from the Resource Primary Frequency Response definition.

3. The GO is no longer a functional entity in this draft, we suggest to make corresponding changes to the Implementation plan and to remove references to the GO in the Applicable Entities section.

Likes 0	
Dislikes 0	

Response

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	
Document Name	
Comment	

(i) Section 1.2 Evidence Retention within the Section 5 Compliance of BAL-003-3 Draft 2 states:

“The Generator Operator shall retain evidence of notifications made to the Balancing Authority for the current year and the previous five (5) calendar years for Requirement R5 and Measure M5.”

However, Requirement R5 of BAL-003-3 Draft 2 does not include a provision that GOP notify the BA.

BC Hydro recommends that the Section 1.2 Evidence Retention be revised in alignment with the Standard’s Requirements.

(ii) The Requirement R1 mandates that FRCM is "greater than equal to one". The Violation Severity Levels for R1 reference an FRCM of 100%.

BC Hydro recommends aligning the VSL wording to reflect the wording in R1/M1 and the FRCM calculation per Attachment 1, which is expressed as a ratio rather than a per cent value.

Likes 0	
Dislikes 0	
Response	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	
Document Name	
Comment	

The NAGF has no additional comments.

Likes 0	
Dislikes 0	
Response	
Nicolas Turcotte - Hydro-Quebec (HQ) - 1	
Answer	
Document Name	
Comment	

1. Consider defining "Target Business Date" in the standard or Technical Rationale.

2. Given that speed regulators are elaborate and have proportional, integral and derivative components, we suggest removing “proportional” from the Resource Primary Frequency Response definition.

3. The GO is no longer a functional entity in this draft, we suggest to make corresponding changes to the Implementation plan and to remove references to the GO in the Applicable Entities section.

Likes 0	
Dislikes 0	

Response

Casey Perry - PNM Resources - 1,3 - WECC

Answer	
Document Name	

Comment

PNM is in agreement with EEI's comments for question 5.

Likes 0	
Dislikes 0	

Response

Joseph Amato - Berkshire Hathaway Energy - MidAmerican Energy Co. - 3

Answer	
Document Name	

Comment

MidAmerican supports MRO NSRF comments. These propose a desirable modification if the ballot does not pass.

Likes 0	
Dislikes 0	

Response

Kimberly Turco - Constellation - 6

Answer	
Document Name	

Comment
Constellation has no additional comments. Kimberly Turco on behalf of Constellation Segments 5 and 6.

Likes 0	
Dislikes 0	

Response

Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF

Answer	
Document Name	

Comment
None.

Likes 0	
Dislikes 0	

Response

Romel Aquino - Edison International - Southern California Edison Company - 3

Answer	
Document Name	

Comment
See comments submitted by the Edison Electric Institute

Likes 0	
Dislikes 0	

Response

Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company

Answer	
Document Name	

Comment

No additional comments	
Likes 0	
Dislikes 0	
Response	
Lori Frisk - Allete - Minnesota Power, Inc. - 1	
Answer	
Document Name	
Comment	
Minnesota Power agrees with MRO's NERC Standards Review Forum's (NSRF) comments.	
Likes 0	
Dislikes 0	
Response	
Michael Johnson - Pacific Gas and Electric Company - 1,3,5 - WECC, Group Name PG&E All Segments	
Answer	
Document Name	
Comment	
PG&E has no additional input.	
Likes 0	
Dislikes 0	
Response	
Elizabeth Davis - Elizabeth Davis On Behalf of: Thomas Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis, Group Name ISO/RTO Standards Review Committee	
Answer	
Document Name	
Comment	

The SRC is, in general, is supportive of these proposed changes. Requiring Generator Operators to operate with Governor controls in service (with limited exceptions) is a significant step forward and should improve overall confidence in the ability to arrest abnormal deviations in interconnection frequency.

However, the SRC believes that removing the requirement for droop and deadband settings creates an inconsistency with FERC Order 842 (paragraph 70), which specifies minimum droop and deadband requirements. This removal could lead to inconsistent frequency response.

FERC Order 842: paragraph 70: We adopt the NOPR proposal to require newly interconnecting generating facilities to install, maintain, and operate a governor or equivalent with a maximum 5 percent droop and ±0.036 Hz deadband and for the droop characteristic to be based on the nameplate capacity.

Please note: M5 includes a reference to 'Generator' in the last sentence of the Measure: "Requirement R5 does not require a **Generator** to operate with headroom, as stated in FERC Order No. 842, P109." The SRC requests that 'Generator' be replaced with 'generating units/generating facilities,' as 'Generator' is not defined in the NERC Glossary, and 'generating units/generating facilities' is the term used throughout the rest of the draft Reliability Standard, including in the definitions of Governor and Primary Frequency Response.

Additionally, the SRC is concerned that paragraph 1.4 in the definition of Credit for Load Resources in Attachment A, Table 1 continues to be ambiguous. Specifically, the placement of the phrases "*during normal operations*" and "*any other Ancillary Service*" leaves paragraph 1.4 open to multiple interpretations. In order to address this ambiguity and clarify the intended meaning as understood by the SRC, the SRC recommends that paragraph 1.4 be replaced with the following proposed language:

"*consists of capacity that is not included in UFLS or an Undervoltage Load Shedding Program (UVLS Program) and, during normal operations:*

- *is exclusively reserved for Frequency Response;*
- *cannot be counted as participating in Ancillary Services unrelated to Frequency Response, such as Contingency Reserve; and*
- *is not subject to any manual operator-initiated action;*

and"

Section 4. Applicability, add an exemption for Nuclear Generating Facilities:

In accordance with FERC Order 842, the SRC notes that Generating Facilities regulated by the United States Nuclear Regulatory Commission should be exempt from this standard. To address this, the SRC proposes the following addition to section 4 (modeled after similar exemptions for nuclear facilities under CIP standards):

4.2. Exemptions: The following are exempt from Standard BAL-003-3:

4.2.1 Generating facilities regulated by the United States Nuclear Regulatory Commission.

4.2.2. Generating facilities regulated by the Canadian Nuclear Safety Commission.

The SRC wants to the thank the Standard Drafting Team for their dedication and work related to this Project - much appreciated!

Likes 0	
Dislikes 0	

Response

Lindsey Mannion - ReliabilityFirst - 10

Answer	
Document Name	
Comment	
RF appreciates the work of the SDT and the opportunity to comment.	
Likes 0	
Dislikes 0	
Response	
Alan Kloster - Alan Kloster On Behalf of: Jennifer Flandermeyer, Evergy, 3, 6, 5, 1; Jeremy Harris, Evergy, 3, 6, 5, 1; Kevin Frick, Evergy, 3, 6, 5, 1; Marcus Moor, Evergy, 3, 6, 5, 1; - Alan Kloster	
Answer	
Document Name	
Comment	
Evergy supports and incorporates by reference the comments of the Edison Electric Institute (EEI) for question #5.	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	

Texas RE noticed the following:

- The standard proposes the term Primary Frequency Response. The Implementation Plan has a proposed definition of Resource Primary Frequency Response. These appear to the be defined the same. Please ensure the terms are the same between documents. Since the requirement language uses the term Primary Frequency Response, Texas RE recommends the Implementation Plan mirror this term.
- The Implementation Plan specifies Generator Owner as an “Applicable Entity,” but the Proposed Standard language does not. These should be consistent.
- On the BAL-003-3 Reporting Form, BA Instructions section and the Change History section are blank.
- On the BAL-003-3 Reporting Form, Texas RE inquires what is meant by “NERC Western” within the form?

Texas RE inquires whether there is an expectation to update the Procedure for ERO Support of Frequency Response and Frequency Bias as a result of the BAL-003-3 ballot? Currently the Procedure references BAL-003-2 and the older values (older as in the Standard made changes in Attachment A) which will be incongruent with BAL-003-3.

Lastly, as Credit for Load Resources (CLR) is an exclusive ERCOT-only program, Texas RE recommends the SDT consider revising Table 1 in Attachment A from

"1.4
Exclusively reserved for Frequency Response during normal operations and does not participate in UFLS, Undervoltage Load Shedding Program (U VLS Program), or any other Ancillary Service, such as Contingency Reserve, and isnot used for any other operator-
initiated normal operations; and "

To

"1.4 Capacity that is not included in UFLS or an Undervoltage Load Shedding (UVLS) Program and, during normal operations, is;

a. exclusively reserved for Frequency Response;

b. cannot be counted as participating in Ancillary Services unrelated to Frequency Response, such as Contingency Reserve; and

c. is not subject to any manual operator-initiated action;"

These changes will clarify and better identify how the CLR program is utilized. ERCOT may be in a better position to provide particulars on the language needs to clarify the expectations.

Likes 1	Seattle City Light, 4, Li Hao
Dislikes 0	

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC

Answer	
Document Name	

Comment

NPCC RSC supports the project.

Likes 0	
Dislikes 0	

Response

Dave Krueger - SERC Reliability Corporation - 10

Answer	
Document Name	
Comment	
Implementation plan still references GO	
Likes 0	
Dislikes 0	
Response	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	
Document Name	
Comment	
NA	
Likes 0	
Dislikes 0	
Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	
Document Name	
Comment	

EEI does not agree with the language in both the Applicability Section and Requirement R1 of proposed Draft 2 of BAL-003-3, because both sections have been written in a way that could create confusion. EEI notes that generally the Functional Entities identified in a NERC Reliability Standard are all responsible entities because if they did not have responsibilities within the Reliability Standard, they would not be identified in the Applicability Section. However, in the proposed version of BAL-003-3, only the BA and Frequency Response Sharing Group are identified as responsible entities, while the Generator Operator is only identified as a Functional Entity.

Additionally, in Requirement R1, the Requirement is limited to the Responsible Entity (i.e., BA & FRSG). However, it would be reasonable for the GOP to incorrectly interpret that they too had responsibilities under R1. To address this concern, we suggest the following revisions:

4. Applicability:

4.1. Functional Entities:

4.1.1. Balancing Authority

4.1.2. Frequency Response Sharing Group

4.1.3. Generator Operator

Requirement R1 (*proposed change shown in bold face*)**:**

Each **Frequency Response Sharing Group (FRSG), or Balancing Authority that is not a member of a FRSG, shall achieve an annual** Frequency Response Compliance Measure (FRCM) (as calculated and reported in accordance with Attachment A) that is greater than or equal to one**,** to ensure that sufficient Frequency Response is provided by each **FRSG, or BA that is not a member of a FRSG,** to maintain Interconnection Frequency Response equal to or more negative than the Interconnection Frequency Response Obligation. [Violation Risk Factor: High] [Time Horizon: Real-time Operations]

Likes 0	
Dislikes 0	

Response

Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group

Answer	
Document Name	

Comment

WEC Energy Group supports EEI's comments.

Likes 0	
Dislikes 0	

Response

Diana Torres - Imperial Irrigation District - 6

Answer	
Document Name	

Comment

None

Likes 0	
Dislikes 0	

Response

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC

Answer	
Document Name	
Comment	
No comment	
Likes 0	
Dislikes 0	
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	
Document Name	
Comment	
NA	
Likes 0	
Dislikes 0	
Response	
Daniel Gacek - Exelon - 1	
Answer	
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Kinte Whitehead - Exelon - 3	
Answer	
Document Name	

Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Michael Jones - National Grid USA - 1	
Answer	
Document Name	
Comment	
RE: Section C. Compliance: Please consider adding the abbreviation for "Compliance Enforcement Authority" CEA in section 1.1 and please consider abbreviating CEA in section 1.2. For example, please see the wording for Secion C. Compliance for EOP-012 (Project 2021-07).	
Likes 0	
Dislikes 0	
Response	
Sabrina Martz - Platte River Power Authority - 6	
Answer	
Document Name	
Comment	
Although Platte River is not a BA, we do agree with the proposed deletion and inclusion for the current draft.	
Likes 0	
Dislikes 0	
Response	
Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2	
Answer	
Document Name	
Comment	

ERCOT supports the comments submitted by the SRC and adopts them as its own.

Additionally, ERCOT is particularly concerned that paragraph 1.4 in the definition of Credit for Load Resources in Attachment A, Table 1 continues to be ambiguous. Specifically, the placement of the phrases "*during normal operations*" and "*any other Ancillary Service*" leaves paragraph 1.4 open to multiple interpretations. In order to address this ambiguity and clarify the intended meaning as understood by ERCOT, ERCOT emphasizes the SRC's recommendation that paragraph 1.4 be replaced with the following proposed language:

"*consists of capacity that is not included in UFLS or an Undervoltage Load Shedding Program (UVLS Program) and, during normal operations:*

- *is exclusively reserved for Frequency Response;*
- *cannot be counted as participating in Ancillary Services unrelated to Frequency Response, such as Contingency Reserve; and*
- *is not subject to any manual operator-initiated action;*

and"

Likes 0	
Dislikes 0	

Response

Alison MacKellar - Constellation - 5

Answer	
Document Name	

Comment

Constellation has no additional comments.

Alison Mackellar on behalf of Constellation Segments 5 and 6

Likes 0	
Dislikes 0	

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators

Answer	
Document Name	

Comment

Thank you for the opportunity to comment.

Likes 0	
Dislikes 0	

Response

Kenya Streeter - Edison International - Southern California Edison Company - 6

Answer	
Document Name	

Comment

See comments submitted by the Edison Electric Institute

Likes 0	
Dislikes 0	

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Answer	
Document Name	

Comment

No additional comments.

Likes 0	
Dislikes 0	

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF

Answer	
Document Name	

Comment

Southern Indiana Gas & Electric Company is providing the following grammatic changes to the Implementation Plan:

• In the Applicability Entities section, remove the Generator Owner to mirror the revised Applicablity section of the proposed BAL-003 Standard. • In the Proposed Definition(s) section, change “Elements” to lower case “elements” in the Governor definition to mirror the Texas RE definition and the definition in the proposed Standard BAL-003.	
Likes 0	
Dislikes 0	
Response	
Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Timothy Singh, Salt River Project, 3, 5, 1, 6; - Israel Perez	
Answer	
Document Name	
Comment	
n/a	
Likes 0	
Dislikes 0	
Response	

Comments submitted by Xcel Energy:

Xcel Energy’s comment supporting the Negative vote on Question 2 is as follows:

> Xcel Energy does not support the removal of Requirement R7 from Draft Version 1 in its entirety as prior R7 specified the required droop and deadband settings of the Governor necessary to support real-time operating performance as envisioned under Requirement R5 in Draft Version 2. By not specifying the required droop and deadband settings of the resource Governor, resources may not provide the frequency response required in real-time to maintain reliable BES operation.
>
> That said, Xcel Energy supports the removal portion of the language in R7, Draft Version 1 that dealt with notifications from the Generator Owner to its Balancing Authority. This portion of R7 could be addressed under TOP-003-4:

Xcel Energy’s comment supporting the overall Negative vote with additional responses to Question 5, which are as follows:

> Overall, Xcel Energy is generally supportive of the proposed changes. Requiring Generator Operators to operate with Governor controls in service (with limited exceptions) and preventing other control modes, such as outer loop controls, from overriding this frequency response control is a significant step forward and should improve overall interconnection frequency response.
>
> That said, Xcel Energy supports the partial restoration of prior requirement R7 to reinstate droop and deadband settings criteria as envisioned in FERC Order 842 (paragraph 70). The absence of this requirement could lead to less than adequate frequency response in real-time operations.

FERC Order 842: paragraph 70: *We adopt the NOPR proposal to require newly interconnecting generating facilities to install, maintain, and operate a governor or equivalent with a maximum 5 percent droop and ±0.036 Hz deadband and for the droop characteristic to be based on the nameplate capacity.*

***NEW* Proposed edit to BAL-003-3, measure M5**

The last sentence of Measure M5 refers to the term 'Generator' which is not defined in the NERC Gloassary or the Standard. Therefrore, MRO NSRF requests 'Generator' be replaced with 'generating unit/generating facility' as used throughout the balance of proposed BAL-003-3, including the definitions for Governor and Primary Frequency Response.

M5. "…Requirement R5 does not require a generating unit/generating facility ~~Generator~~ to operate with headroom, as stated in FERC Order No. 842, P109."

As noted above, as the definitions for **Governor** and **Primary Frequency Response** apply to "generating units/generating facilities," Xcel Energy requests the SDT ensure these terms include inverter-based resources and other future resource types that are contemplated, such as battery storage systems. Finally, we ask the SDT to ensure this language is consistent with other NERC standards.

Comments submitted by MRO/NSRF:

Questions

1. Based on industry comments, proposed Requirement R5 from Draft Version I of proposed BAL-003-3 has been removed and is not included in Draft Version II of proposed BAL-003-3.
   Draft Version I Requirement R5:

   "Each Balancing Authority shall develop, review and maintain annually, and implement an Operating Process as part of its Operating Plan to determine its Frequency Response requirements and make preparations to have Frequency Response equal to or greater than (in absolute value) the Balancing Authority's Frequency Response Obligation available for maintaining system reliability."

   This requirement proposed to require inclusion of explicit consideration of frequency responsive reserves in the Balancing Authority's Operating Plans. Industry comments received noted that the proposed requirement is administrative in nature and redundant to other requirements in other standards, specifically TOP-002-4, Requirement R4; which requires that Balancing Authorities prepare next day Operating Plans which considers all key elements, including energy reserve requirements.

Although not explicitly named, frequency responsive reserve is an energy reserve requirement. After consideration of the comments received, the Standard Drafting Team (SDT) removed proposed Requirement R5.

Do you agree with the deletion of proposed Requirement R5 from Draft Version 1 of proposed BAL-003-3? Please provide the reasoning or justification for your position in the comments.

☒ Yes

☐ No

Comments:

The MRO NERC Standards Review Forum (NSRF) agrees with the removal of this requirement. As stated above, the prior requirement R5 was administrative in nature and redundant to TOP-002-4, R5 which requires Balancing Authorities to have next day Operating Plans, inclusive of reserve requirements.

2. Based on industry comments, proposed Requirement R7 from Draft Version I of proposed BAL-003-3 has been removed and is not included in Draft Version II of proposed BAL-003-3.

   Draft Version I Requirement R7:

   > "*Each Generator Owner shall have its Governor capability on each resource set with a droop of no more than five (5) percent and a deadband not more than 0.036 Hz. Exceptions to these setting requirements are allowed if the Generator Owner has notified its Balancing Authority that:*
   > - *The droop setting is greater than five (5) percent or the deadband is greater than 0.036 Hz; or*
   > - *The resource as designed does not have frequency response capability."*

   This requirement proposed that the Generator Owner is responsible to ensure minimum settings for the Governor droop and deadband or for notification to the Balancing Authority if the settings were not within the minimum settings to address the Balancing Authorities that may be concerned about not seeing FR expected. Industry comments received noted that the Balancing Authority already has the ability to request this information from their Generator Owners under TOP-003-4, and proposing a new requirement under BAL-003 was unnecessary and possibly duplicative of TOP-003-4. TOP-003-4, Requirement R2 requires BAs to maintain a documented specification for data necessary for it to perform its analysis functions and Real-time monitoring; while Requirement R5, requires Generator Owners receiving a data specification (under TOP-003-4, Requirement R4) to satisfy the obligations of the documented data specification.

   Do you agree with the deletion of proposed Requirement R7 from Draft Version 1 of proposed BAL-003-3? Please provide the reasoning or justification for your position in the comments.

   ☐ Yes

   ☒ No

Comments:

The MRO NSRF does not support the removal of Requirement R7 from Draft Version 1 in its entirety as prior R7 specified the required droop and deadband settings of the Governor necessary to support real-time operating performance as envisioned under Requirement R5 in Draft Version 2. By not specifying the required droop and deadband settings of the resource Governor, resources may not provide the frequency response required in real-time to maintain reliable BES operation.

That said, MRO NSRF supports the removal portion of the language in R7, Draft Version 1 that dealt with notifications from the Generator Owner to its Balancing Authority. This portion of R7 could be addressed under TOP-003-4:

> *"Exceptions to these setting requirements are allowed if the Generator Owner has notified its Balancing Authority [pursuant to TOP-003-4]."*

3. As both of the previous proposed Requirements R5 and R7 from Draft Version I of proposed BAL-003-3 have been removed, the previously-proposed Requirement R6 now appears as proposed Requirement R5 in Draft Version II of proposed Reliability Standard BAL-003-3. This requirement has been revised to reflect the SDT's opinion of what constitutes a requirement that would benefit the electric system frequency control ability through the use of governors which are able to respond to frequency disturbances. Many comments from industry expressed a need for the allowance for exceptions. Exemptions have been added to the newly-proposed Requirement R5.
   Industry comments also expressed concern that "controls" versus "modes" were used in the previously-proposed Requirement R6. This conflict in terms has been resolved in the changes made to the requirement.
   Additionally, industry comments reflected disagreement with the interchangeable use of governor with "frequency responsive controls." This duplicative use has been removed in the current draft of the requirement. The notification part of the previously-proposed requirement has been removed.
   The proposed requirement uses the Texas RE regional definition for the terms **Governor** and **Primary Frequency Response** used by Texas RE and proposes to add them to the NERC Glossary of Terms.
   Draft Version I, Requirement R6:

   > "*Each Generator Operator shall operate each generating unit/generating facility that is connected to the interconnected transmission system with frequency responsive controls in service when the generating unit/generating facility is online and released for dispatch, unless the Generator Operator has notified the Balancing Authority as soon as practical but within 30 minutes of the discovery of a Governor status change (in-service, out-of-service).*"

   Draft Version II, Requirement R5:

   > "*Each Generator Operator shall operate each generating unit/generating facility connected to an Interconnection with its Governor in speed or frequency control mode unless: [Violation Risk Factor = Medium] [Time Horizon = Real-time Operations]*
   >
   > - *The generating unit/generating facility is not equipped with a Governor;*
   > - *System operating conditions are incompatible with the generating unit/generating facility operating the Governor in speed or frequency control mode as determined by the Balancing Authority; or*

- *The generating unit/generating facility is being operated in start-up, shut-down, experiences a component failure, or other temporary mode that requires the Governor speed or frequency control mode to be temporarily disabled.*

5.1 *Other control modes, such as outer loop control, shall not override the Primary Frequency Response of the Governor."*

Do you support adding proposed Requirement R5 to BAL-003? Please provide the reasoning or justification for your position in the comments.

☒ Yes

☐ No

Comments:

MRO NSRF also recommends the minimum droop and deadband settings for the Governor be added to new requirement R5 as shown below.

R.5 *Each Generator Operator shall operate each generating unit/generating facility connected to an Interconnection with its Governor in speed or frequency control mode where the droop setting is a maximum of five (5) percent and the deadband parameter is a maximum of ± 0.036 Hz unless: [Violation Risk Factor = Medium] [Time Horizon = Real-time Operations]*

- *The generating unit/generating facility is not equipped with a Governor;*
- *System operating conditions are incompatible with the generating unit/generating facility operating the Governor in speed or frequency control mode as determined by the Balancing Authority; or*
- *The generating unit/generating facility is being operated in start-up, shut-down, experiences a component failure, or other temporary mode that requires the Governor speed or frequency control mode to be temporarily disabled.*

4. Concerns related to the current performance metric for Balancing Authorities, where the median performance of all Operating Year selected events is used to determine compliance, potentially allows for an entity to perform well in the first half of the year and then "detune" their performance for the second half of the year. Discussions by the SDT concluded that the after-the-fact methodology with a "median" performance metric is the preferred method to measure performance due to the impact that outlier events have on a "mean" calculation.

   Do you agree with the after-the-fact methodology with a "median" performance metric, or do you think a "mean" performance metric would be a better method to measure performance? Please provide the reasoning or justification for your position in the comments.

   ☒ Median (middle)

   ☐ Mean (average)

Comments:

MRO NSRF supports a “median” performance metric.

5. Please provide any other comments or feedback, which you haven’t already provided, to the SDT related to the proposed modifications to the standard.
Comments:

Overall, MRO NSRF is generally supportive of the proposed changes. Requiring Generator Operators to operate with Governor controls in service (with limited exceptions) and preventing other control modes, such as outer loop controls, from overriding this frequency response control is a significant step forward and should improve overall interconnection frequency response.

Reinstate droop and deadband settings

That said, MRO NSRF supports the partial restoration of prior requirement R7 to reinstate droop and deadband settings criteria as envisioned in FERC Order 842 (paragraph 70). The absence of this requirement could lead to less than adequate frequency response in real-time operations.

> FERC Order 842: paragraph 70: *We adopt the NOPR proposal to require newly interconnecting generating facilities to install, maintain, and operate a governor or equivalent with a maximum 5 percent droop and ±0.036 Hz deadband and for the droop characteristic to be based on the nameplate capacity.*

Section 4. Applicability, add an exemption for Nuclear Generating Facilities

In accordance with FERC Order 842, the MRO NSRF notes that Generating Facilities regulated by the United States Nuclear Regulatory Commission should be exempt from this standard. To address this, and likewise for Canadian nuclear facilities, the MRO NSRF proposes the following addition to section 4 (modeled after similar exemptions for nuclear facilities under CIP standards):

> **4.2.** Exemptions: The following are exempt from Standard BAL-003-3:
>
> **4.2.1** Generating facilities regulated by the United States Nuclear Regulatory Commission.
>
> **4.2.2** Generating facilities regulated by the Canadian Nuclear Safety Commission.

Measure M5

The last sentence of Measure M5 refers to the term 'Generator' which is not defined in the NERC Gloassary or the Standard. Therefore, MRO NSRF requests 'Generator' be replaced with 'generating unit/generating facility' as used throughout the balance of proposed BAL-003-3, including the definitions for Governor and Primary Frequency Response.

> **M5.** "…Requirement R5 does not require a generating unit/generating facility ~~Generator~~ to operate with headroom, as stated in FERC Order No. 842, P109."

As noted above, as the definitions for **Governor** and **Primary Frequency Response** apply to "generating units/generating facilities," the MRO NSRF requests the SDT ensure these terms include inverter-based resources and other future resource types that are contemplated, such as battery storage systems. Finally, we ask the SDT to ensure this language is consistent with other NERC standards.