

BAL-003-2 Frequency Response Obligation Allocation and Minimum Frequency Bias Settings for Operating Year 2024

Introduction

Compliance with Requirement R1 on Frequency Response performance of NERC Standard BAL-003-2 – Frequency Response and Frequency Bias Setting went into effect on December 1, 2022. The official Frequency Response Obligations (FRO) and Minimum Frequency Bias Settings (FBS) for each Balancing Authority (BA) for Operating Year 2024 are attached.

This document outlines the procedure for setting FBS for 2024 and publishes the FRO and minimum FBS for BAL-003 operating year 2024 in accordance with BAL-003-2.

Frequency Response Obligation Allocations

Interconnection Frequency Response Obligations (IFROs) are annually calculated for each of the four Interconnections and published in the *Frequency Response Annual Analysis* (FRAA) report. Through annual endorsement of that report the NERC Reliability and Security Technical Committee sanctions the IFROs for allocation by the Electric Reliability Organization (ERO) through the methods put forth in Standard BAL-003-2.

In accordance with the recommendations from the *2023 FRAA* report that were approved by the NERC Resources Subcommittee and endorsed by the NERC Reliability and Security Technical Committee the IFRO values for the Eastern, Western, and Québec Interconnections for operating year 2024 (December 2023 through November 2024) shall not remain the same values as calculated in the *2016 FRAA* report for operating year 2017. The IFRO value for each Interconnection shall increase or decrease slightly (in absolute terms) due to a change in the credit for load resources (CLR) and resource loss protection criteria as discussed in the *2020 FRAA*.

Effective IFROs for Operating Year 2024					
	Eastern (EI)	Western (WI)	Texas (TI)	Québec (QI)	Units
IFRO	-923	-1042	-395	-211	MW/0.1Hz

Allocation Method

The ERO annually allocates the approved IFROs to the individual BAs for the upcoming BAL-003 operating year (December 1 through November 30) in accordance with the allocation method defined in BAL-003-2.

Frequency Bias Setting Procedure for 2024 Bias Year

Note that each year there will be a short lag period between receipt of the FRO for December implementation and its use in the implementation the Variable FBS by BAs using it in Requirement R3 of BAL-003-2.

BAs utilizing Variable Bias Settings should use the Operating Year 2023 FRO provided for implementation on December 1, 2023 for the purpose of compliance with Requirement R3 starting on the 3 business days starting on or after June 1, 2024 as specified by the ERO.

Minimum Frequency Bias Settings

In accordance with BAL-003-2 a BA using a fixed Frequency Bias Setting sets its Frequency Bias Setting to the greater of (in absolute terms) any number the BA chooses between 100% and 125% of its Frequency Response Measure as calculated on FRS Form 1 or the BA minimum Frequency Bias Setting allocated from the Interconnection Minimum as determined by the ERO. This document provides the minimum FBS for each BA.

2024 Frequency Performance Data Submittal

BAs will submit their 2024 data on FRS Forms FR-1 and FR-2 through the Balancing Authority Submittal Site (BAS Site) no later than April 1, 2024. The ERO will then publish the final FBSs in time for implementation on or about May 1, 2024.

L10 Calculations

The BA L₁₀ values, previously used for CPS2, are still calculated for information purposes and for use with the Western Interconnection Automatic Time Error Correction (ATEC). The BA L₁₀ values can only be calculated after all of the FBS for the interconnections are known.

Therefore, after all the FBS are submitted, the ERO will calculate L₁₀ values and distribute the data along with the final FBS for implementation on or within 3 business days of June 1, 2024.

Frequency Bias Setting Schedule for 2024

The FBS to be used for Bias Setting year 2024 (June 2024 through May 2025) for compliance with Requirements R2, R3, and R4 of Standard BAL-003-2 will be implemented using the following process:

1. Prior to March 1, 2024 the final FRS Form 1s will be posted for each Interconnection pre-populated with frequency events for all four quarters of operating year 2023 (December 1, 2022 through November 30, 2023).
2. By April 1, 2024 all BAs complete their frequency response analysis using the frequency events selected by the ERO for all four quarters of operating year 2023 and their desired FBS for the 2024 operating year. BAs submit their FRS Form 1 and FRS Form 2s to the ERO via the BAS Site. The final BA FBSs and L₁₀ values cannot be calculated until completed and accurate Form 1s are received for *all* BAs in that interconnection. *It is therefore essential that all BAs submit their FRS forms no later than April 1st in accordance with BAL-003-2.*
3. By May 1 the ERO validates FBS, computes the sum of FBS for each Interconnection, and determines L₁₀ values for each BA. The ERO will post that report on the BAS Site and the RS website.
4. During the first three business days of June, 2024, unless specified otherwise by the ERO, BAs will implement the 2024 FBS in their Reporting ACE calculation. In May of each year the ERO will announce a target date for implementation.

Balancing Authority Frequency Response Obligations for Operating Year 2024					For Comparison Only		For Comparison Only			
BA Name	BA Acronym	Maximum Monthly Peak Demand (2022 MW) FERC 714 Data	BA Net Generation + BA Net Energy for Load (2022 MWh) FERC 714 Data	2024OY BA % Ratio (BAL-003-1 Attach A)	2024 OY BA FROs (MW/0.1 Hz)	Year over Year BA FRO Change	2023 OY BA FROs (MW/0.1 Hz)	2024 OY Minimum Frequency Bias Settings For Fixed Bias BAs	Year over Year Min FBS Change	2023 OY Minimum BA Frequency Bias Settings
Eastern Interconnection		612,653	6,293,325,605	100.00%	2024OY EI IFRO -923		-890	0.9% of EI Peak Demand -5,514		-5,237
Associated Electric Cooperative, Inc.	AECI	2,204	49,972,414	0.79%	-7.3	7.35%	-6.8	-43.8	10.05%	-39.8
Cube Hydro Carolinas	CHC	27	783,314	0.01%	-0.1	0.00%	-0.1	-0.7	-12.50%	-0.8
Duke Energy Progress, Inc.	CPLE	14,071	134,641,213	2.14%	-19.7	2.07%	-19.3	-118.0	3.78%	-113.7
Duke Energy Carolinas	DUK	21,277	217,840,714	3.46%	-31.9	2.24%	-31.2	-190.9	3.98%	-183.6
Florida Municipal Power Pool	FMPP	3,808	37,903,500	0.60%	-5.6	3.70%	-5.4	-33.2	4.73%	-31.7
Duke Energy Florida, Inc.	FPC	11,729	101,604,867	1.61%	-14.9	5.67%	-14.1	-89.0	7.36%	-82.9
Florida Power & Light Co.	FPL	26,709	274,808,877	4.37%	-40.3	7.75%	-37.4	-240.8	9.55%	-219.8
Gainesville Regional Utilities	GVL	425	3,969,088	0.06%	-0.6	0.00%	-0.6	-3.5	0.00%	-3.5
Homestead, City of	HST	117	620,903	0.01%	-0.1	0.00%	-0.1	-0.5	0.00%	-0.5
Ontario IESO	IESO	22,607	283,500,353	4.50%	-41.6	2.97%	-40.4	-248.4	4.46%	-237.8
ISO-NE	ISNE	24,749	221,079,671	3.51%	-32.4	1.25%	-32.0	-193.7	2.87%	-188.3
JEA (Jacksonville)	JEA	2,816	21,788,757	0.35%	-3.2	6.67%	-3.0	-19.1	7.30%	-17.8
LG&E and KU Services Company	LGEE	6,886	65,226,221	1.04%	-9.6	2.13%	-9.4	-57.1	3.07%	-55.4
Manitoba Hydro	MHEB	4,798	65,591,922	1.04%	-9.6	20.00%	-8.0	-57.5	22.08%	-47.1
Midcontinent Independent System Operator, Inc.	MISO	117,455	1,295,195,657	20.58%	-190	2.37%	-185.6	-1,134.8	3.91%	-1,092.1
New Brunswick Power Corporation	NBPSO	3,760	29,901,352	0.48%	-4.4	2.33%	-4.3	-26.2	3.97%	-25.2
Nova Scotia Power Inc.	NSPI	2,216	21,354,758	0.34%	-3.1	0.00%	-3.1	-18.7	3.31%	-18.1
New York Independent System Operator	NYIS	30,505	279,549,021	4.44%	-41	0.74%	-40.7	-244.9	2.17%	-239.7
PJM Interconnection, LLC	PJM	147,716	1,621,933,430	25.77%	-237.9	1.49%	-234.4	-1,421.1	3.02%	-1,379.5
South Carolina Public Service Authority (Santee)	SC	5,385	45,772,744	0.73%	-6.7	4.69%	-6.4	-40.1	6.08%	-37.8
South Carolina Electric & Gas Company (Dominion)	SCEG	4,723	47,795,405	0.76%	-7	-6.67%	-7.5	-41.9	-4.34%	-43.8
Seminole Electric Cooperative	SEC	467	13,225,487	0.21%	-1.9	-5.00%	-2.0	-11.6	0.87%	-11.5
Southeastern Power Administration	SEPA	-	1,406,469	0.02%	-0.2	-33.33%	-0.3	-1.2	-25.00%	-1.6
Southern Company Services, Inc. - Trans	SOCO	47,832	476,621,209	7.57%	-69.9	25.49%	-55.7	-417.6	11.84%	-373.4
Southwestern Power Administration	SPA	136	6,628,573	0.11%	-1	-16.67%	-1.2	-5.8	-15.94%	-6.9
Saskatchewan Power Corporation	SPC	3,801	50,026,758	0.79%	-7.3	0.00%	-7.3	-43.8	2.58%	-42.7
Southwest Power Pool	SWPP	72,534	570,814,639	9.07%	-83.7	6.22%	-78.8	-500.1	7.92%	-463.4
Tallahassee, City of	TAL	592	5,732,456	0.09%	-0.8	0.00%	-0.8	-5.0	8.70%	-4.6
Tampa Electric Company	TEC	4,385	43,707,376	0.69%	-6.4	3.23%	-6.2	-38.3	4.64%	-36.6
Tennessee Valley Authority	TVA	28,923	304,328,457	4.84%	-44.6	-7.28%	-48.1	-266.6	-5.76%	-282.9

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Western Interconnection								0.9% of WI Peak Demand		
		189,078	1,798,485,612	100.00%	-1042	-4.93%	-1096	-1,701.7		-1,578.1
Alberta Electric System Operator	AESO	12,253	169,561,107	9.43%	-98.2	-6.74%	-105.3	-160.4	6.51%	-150.6
Avista Corporation	AVA	2,514	25,845,841	1.44%	-15	-3.85%	-15.6	-24.5	9.38%	-22.4
Avangrid Renewables	AVRN	-	7,865,959	0.44%	-4.6	-16.36%	-5.5	-7.4	-5.13%	-7.8
Arizona Public Service Company	AZPS	7,562	64,329,810	3.58%	-37.3	-5.33%	-39.4	-60.9	7.98%	-56.4
Balancing Authority of Northern California (Sacramento)	BANC	4,882	27,337,863	1.52%	-15.8	-15.96%	-18.8	-25.9	-3.72%	-26.9
British Columbia Hydro and Power Authority	BCHA	11,965	136,528,546	7.59%	-79.1	-8.13%	-86.1	-129.2	4.87%	-123.2
Bonneville Power Administration	BPAT	11,068	156,561,293	8.71%	-90.7	-0.87%	-91.5	-148.1	13.05%	-131.0
Comision Federal de Electricidad (CEN)	CFE	3,323	31,399,014	1.75%	-18.2	-5.70%	-19.3	-29.7	7.22%	-27.7
Public Utility District No. 1 of Chelan County	CHPD	556	7,539,857	0.42%	-4.4	-4.35%	-4.6	-7.1	7.58%	-6.6
California Independent System Operator	CISO	51,479	392,309,246	21.81%	-227.3	-5.61%	-240.8	-371.2	7.72%	-344.6
Arlington Valley, LLC - AVBA	DEAA	-	1,836,199	0.10%	-1.1	37.50%	-0.8	-1.7	41.67%	-1.2
PUD No. 1 of Douglas County	DOPD	517	2,511,130	0.14%	-1.5	0.00%	-1.5	-2.4	9.09%	-2.2
El Paso Electric Company	EPE	2,200	13,675,056	0.76%	-7.9	-7.06%	-8.5	-12.9	5.74%	-12.2
Public Utility District No. 2 of Grant County Washington	GCPD	984	12,538,104	0.70%	-7.3	-3.95%	-7.6	-11.9	9.17%	-10.9
Gridforce Energy Management, LLC	GRID	-	14,073,741	0.78%	-8.2	6.49%	-7.7	-13.3	-49.04%	-26.1
Griffith Energy, LLC	GRIF	-	-	0.00%	0	-100.00%	-1.5	0.0	0.00%	0.0
NaturEner Power Watch, LLC (BHE)	GWA	-	572,652	0.03%	-0.3	0.00%	-0.3	-0.5	0.00%	-0.5
New Harquahala Generating Station	HGMA	-	2,656,234	0.15%	-1.5	0.00%	-0.3	-2.5		-0.4
Imperial Irrigation District	IID	1,095	4,735,735	0.26%	-2.7	-10.00%	-3.0	-4.5	2.27%	-4.4
Idaho Power Company	IPCO	3,953	33,841,488	1.88%	-19.6	-7.11%	-21.1	-32.0	6.31%	-30.1
Los Angeles Department of Water and Power	LDWP	6,823	37,378,815	2.08%	-21.7	-13.55%	-25.1	-35.4	-1.39%	-35.9
Nevada Power Company	NEVP	9,919	72,154,957	4.01%	-41.8	-6.90%	-44.9	-68.3	6.39%	-64.2
NorthWestern Corporation (NorthWestern Energy)	NWMT	2,073	22,197,414	1.23%	-12.9	-2.27%	-13.2	-21.0	11.70%	-18.8
PacifiCorp East	PACE	9,556	108,612,878	6.04%	-62.9	-4.26%	-65.7	-102.8	9.36%	-94.0
PacifiCorp West	PACW	3,989	37,434,935	2.08%	-21.7	-17.80%	-26.4	-35.4	-6.10%	-37.7
Portland General Electric Company	PGE	4,227	39,819,878	2.21%	-23.1	-8.33%	-25.2	-37.7	4.72%	-36.0
Public Service Company of New Mexico	PNM	2,787	29,003,779	1.61%	-16.8	-7.18%	-18.1	-27.4	6.20%	-25.8
Public Service Company of Colorado	PSCO	8,885	86,657,575	4.82%	-50.2	-7.04%	-54.0	-82.0	6.08%	-77.3
Puget Sound Energy, Inc.	PSEI	5,154	41,891,242	2.33%	-24.3	-7.25%	-26.2	-39.6	5.88%	-37.4
Seattle City Light	SCL	1,915	16,396,458	0.91%	-9.5	-5.94%	-10.1	-15.5	7.64%	-14.4
Salt River Project Agricultural Improvement and Power District	SRP	7,691	75,656,870	4.21%	-43.8	24.08%	-35.3	-71.6	41.78%	-50.5
Tucson Electric Power	TEPC	3,294	29,346,775	1.63%	-17	-13.71%	-19.7	-27.8	-1.42%	-28.2
Turlock Irrigation District	TIDC	720	4,867,800	0.27%	-2.8	-6.67%	-3.0	-4.6	9.52%	-4.2
City of Tacoma, Department of Public Utilities, Light Division	TPWR	971	8,006,879	0.45%	-4.6	-8.00%	-5.0	-7.6	7.04%	-7.1
Western Area Power Administration - Rocky Mountain Region	WACM	4,802	62,741,152	3.49%	-36.4	18.57%	-30.7	-59.4	10.00%	-54.0
Western Area Power Administration - Desert Southwest Region	WALC	1,755	18,455,823	1.03%	-10.7	-16.41%	-12.8	-17.5	-4.37%	-18.3
Western Area Power Administration - Upper Great Plains Region	WAUW	166	1,468,303	0.08%	-0.9	0.00%	-0.9	-1.4	7.69%	-1.3
NaturEner Wind Watch, LLC (BHE)	WWA	-	675,205	0.04%	-0.4	0.00%	-0.4	-0.6	0.00%	-0.6
ERCOT Interconnection										
		80,147	861,777,049	100%	-395	-14.69%	-463	N/A	N/A	N/A
Electric Reliability Council of Texas, Inc.	ERCO	80,147	861,777,049	100%	-395	-14.69%	-463.0			
Québec Interconnection										
				100%	-211	0.00%	-211	N/A	N/A	N/A
Hydro-Québec TransÉnergie	HQT			100%	-211	0.00%	-211.0			