Standard: BAL-003-1 Frequency Response and Frequency Bias Setting		
Requirement in Approved Standard	**Translation to New Standard or Other Action**	**Proposed Language in BAL-003-1/Comments**
R1. Each Balancing Authority shall review its Frequency Bias Settings by January 1 of each year and recalculate its setting to reflect any change in the Frequency Response of the Balancing Authority Area. R1.1. The Balancing Authority may change its Frequency Bias Setting, and the method used to determine the setting, whenever any of the factors used to determine the current bias value change. R1.2. Each Balancing Authority shall report its Frequency Bias Setting, and method for determining that setting, to the NERC Operating Committee.	This Requirement has been moved into BAL-003-1 Attachment A & FRS Form 1	Attachment A Each Balancing Authority shall report its previous year's Frequency Response Measure (FRM), Frequency Bias Setting and Frequency Bias type (fixed or variable) to the ERO on FRS Form 1 by January 10 each year. If the ERO posts the official list of events after December 10, Balancing Authorities will be given 30 days from the date the ERO posts the official list of events to submit their FRS Form 1. AND FRS Form 1 Note : Balancing Authorities with variable Frequency Bias Settings shall calculate monthly average Frequency Bias Settings. The previous year's monthly averages will be reported annually on FRS Form 1.
R2. Each Balancing Authority shall establish and maintain a Frequency	This Requirement	R2. Each Balancing Authority not participating in Overlap Regulation Service shall implement the Frequency Bias Setting

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Bias Setting that is as close as practical to, or greater than, the Balancing Authority's Frequency Response. Frequency Bias may be calculated several ways: **R2.1.** The Balancing Authority may use a fixed Frequency Bias value which is based on a fixed, straight-line function of Tie Line deviation versus Frequency Deviation. The Balancing Authority shall determine the fixed value by observing and averaging the Frequency Response for several Disturbances during on-peak hours. **R2.2.** The Balancing Authority may use a variable (linear or non-linear) bias value, which is based on a variable function of Tie Line deviation to Frequency Deviation. The Balancing Authority shall determine the variable frequency bias value by	is included in BAL-003-1 as described in the Proposed Language Section.	(fixed or variable) validated by the ERO, into its Area Control Error (ACE) calculation beginning on the date specified by the ERO to ensure effectively coordinated Tie Line Bias control. AND Attachment A Each Balancing Authority shall report its previous year's Frequency Response Measure (FRM), Frequency Bias Setting and Frequency Bias type (fixed or variable) to the ERO on FRS Form 1 by January 10 each year. If the ERO posts the official list of events after December 10, Balancing Authorities will be given 30 days from the date the ERO posts the official list of events to submit their FRS Form 1. AND FRS Form 1 Note : Balancing Authorities with variable Frequency Bias Settings shall calculate monthly average Frequency Bias Settings. The previous year's monthly averages will be reported annually on FRS Form 1. AND

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analyzing Frequency Response as it varies with factors such as load, generation, governor characteristics, and frequency.		A portion of this Requirement is being phased out in accordance with the process detailed in Attachment B. This phase out is intended to bring the Frequency Bias Setting closer or equal to the natural Frequency Response.
R3. Each Balancing Authority shall operate its Automatic Generation Control (AGC) on Tie Line Frequency Bias, unless such operation is adverse to system or Interconnection reliability.	This Requirement has been moved into BAL-003-1 Requirement R3.	R3. Each Balancing Authority not receiving Overlap Regulation Service shall operate its Automatic Generation Control (AGC) in Tie Line Bias mode to ensure effectively coordinated control, unless such operation would have an Adverse Reliability Impact on the Balancing Authority's Area. In this instance, the Balancing Authority shall document the reasons for such operation.
R4. Balancing Authorities that use Dynamic Scheduling or Pseudo-ties for jointly owned units shall reflect their respective share of the unit governor droop response in their respective Frequency Bias Setting. R4.1. Fixed schedules for Jointly Owned Units mandate that Balancing Authority (A) that contains the Jointly Owned Unit must incorporate the respective share of the unit governor droop response for any Balancing	This Requirement has been removed from the BAL-003-1 standard.	This Requirement addresses how to calculate Frequency Bias Settings. This is no longer needed since the Frequency Bias Settings are calculated in FRS Form 1 using Frequency Response associated with the "official" list of events and a couple of "floor or ceiling" limits (% of peak load/gen and FRO). The entire calculation is built into the FRS Form 1 workbook.

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Authorities that have fixed schedules (B and C). R4.2. The Balancing Authorities that have a fixed schedule (B and C) but do not contain the Jointly Owned Unit shall not include their share of the governor droop response in their Frequency Bias Setting.		
R5. Balancing Authorities that serve native load shall have a monthly average Frequency Bias Setting that is at least 1% of the Balancing Authority's estimated yearly peak demand per 0.1 Hz change. **R5.1.** Balancing Authorities that do not serve native load shall have a monthly average Frequency Bias Setting that is at least 1% of its estimated maximum generation level in the coming year per 0.1 Hz change.	This Requirement has been moved into BAL-003-1 Requirement R5.	R5. Each Balancing Authority shall use a monthly average Frequency Bias Setting whose absolute value is at least equal to one of the following: • The minimum percentage of the Balancing Authority Area's estimated yearly Peak Demand within its metered boundary per 0.1 Hz change as specified by the ERO in accordance with Attachment B. • The minimum percentage of the Balancing Authority Area's estimated yearly peak generation for a generation-only Balancing Authority, per 0.1 Hz change as specified by the ERO in accordance with Attachment B.
R6. A Balancing Authority that is performing Overlap Regulation Service shall increase its Frequency	This Requirement has been	R4. Each Balancing Authority that is performing Overlap Regulation Service shall modify its Frequency Bias Setting in its ACE calculation to be equivalent to the sum of the

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Bias Setting to match the frequency response of the entire area being controlled. A Balancing Authority shall not change its Frequency Bias Setting when performing Supplemental Regulation Service.	moved into BAL-003-1 Requirement R4.	Frequency Bias Settings of the participating Balancing Authorities as validated by the ERO or calculate the Frequency Bias Setting based on the entire area being combined and thereby represent the Frequency Response for the combined area being controlled.