

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these defined terms will be removed from the individual standard and added to the Glossary.

Single Event Frequency Response Data (SEFRD)

The individual sample of event data from a Balancing Authority which represents the change in Net Actual Interchange (NI_A), divided by the change in frequency, expressed in MW/0.1Hz.

Frequency Response Measure (FRM)

The median of all Single Event Frequency Response Data observations reported annually on FRS Form 1.

Frequency Response Obligation (FRO)

The Balancing Authority's contribution to the total aggregate Frequency Response needed for reliable operation of an Interconnection assigned by the ERO.

Frequency Bias Setting (redline showing proposed changes to approved definition)

A value, (either a fixed or variable Frequency Bias), usually expressed in MW/0.1 Hz, set into a Balancing Authority Area Control Error algorithm equation that allows the Balancing Authority to contribute its frequency-Frequency ~~f~~Response to the Interconnection.

A. Introduction

Title: Frequency Response and Frequency Bias Setting

Number: BAL-003-1

Purpose: To require sufficient Frequency Response from the Balancing Authority to maintain Interconnection Frequency within predefined bounds by arresting frequency deviations and supporting frequency until the frequency is restored. To schedule and provide consistent methods for measuring Frequency Response and determining the Frequency Bias Setting.

Applicability:

- 1.1. Balancing Authority
- 1.2. Reserve Sharing Group (where applicable)

Effective Date:

- 1.3. In those jurisdictions where regulatory approval is required, Requirements R2, R3 and R4 of this standard shall become effective the first calendar day of the first calendar quarter 12 months after applicable regulatory approval. In those jurisdictions where no regulatory approval is required, Requirements R2 and R3 of this standard shall become effective the first calendar day of the first calendar quarter 12 months after Board of Trustees adoption.
- 1.4. In those jurisdictions where regulatory approval is required, Requirements R1 of this standard shall become effective the first calendar day of the first calendar quarter 24 months after applicable regulatory approval. In those jurisdictions where no regulatory approval is required, Requirements R1 of this standard shall become effective the first calendar day of the first calendar quarter 24 months after Board of Trustees adoption.

B. Requirements

- R1.** Each Balancing Authority shall achieve a Frequency Response Measure (FRM) (as detailed in Attachment A and calculated on FRS Form 1) that is equal to or more negative than its Frequency Response Obligation (FRO). [*Risk Factor:][Time Horizon: Operations Assessment]*
- R2.** Each Balancing Authority shall implement the Frequency Bias Setting (fixed or variable) provided by the ERO into its Area Control Error (ACE) calculation beginning on the date specified by the ERO to ensure effective coordinated secondary control, using the results from the calculation methodology detailed in Attachment A. [*Risk Factor:][Time Horizon: Operations Planning]*
- R3.** Each Balancing Authority shall operate its Automatic Generation Control (AGC) on Tie Line Bias, unless such operation would have an Adverse Reliability Impact on the Balancing Authority's Area. [*Risk Factor:][Time Horizon: Real-time Operations]*
- R4.** Each Balancing Authority that is performing Overlap Regulation Service shall increase its Frequency Bias Setting in its ACE calculation by combining the Frequency Bias

Settings for the entire Balancing Authority Area being controlled. [*Risk Factor:* }{Time Horizon: *Operations Planning*}

C. Measures

Measures for each Requirement will be provided in the second posting of the proposed standard.

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

The Regional Entity shall serve as the Compliance Enforcement Authority.

1.2. Compliance Monitoring and Assessment Processes:

Compliance Audits

Self-Certifications

Spot Checking

Compliance Violation Investigations

Self-Reporting

Complaints

Periodic Data Submittals

1.3. Data Retention

Data Retention periods for Requirement R1 through Requirement R4 will be defined in the second posting of the proposed standard.

If a Balancing Authority is found non-compliant, it shall keep information related to the non-compliance until found compliant or for the time period specified above, whichever is longer.

The Compliance Enforcement Authority shall keep the last audit records and all subsequent requested and submitted records.

1.4. Additional Compliance Information

R1 Supplemental Information

Each Balancing Authority shall report its previous year's Frequency Response Measure (FRM) to the ERO on Form 1 by January 10 each year. If the ERO posts the official list of events after December 10, Balancing Authorities will be given 45 days from the date the ERO posts the official list of events to submit their FRS Form 1.

A Balancing Authority may elect to fulfill its Frequency Response Obligation by participating as a member of a Reserve Sharing Group (RSG). If a Balancing

Authority elects to report as an RSG, the total of the participating Balancing Authorities' FRO will be compared to the total of the participating Balancing Authorities' FRM.

R2 Supplemental Information.

Each Balancing Authority shall report its current year requested 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 45 days from the date NERC posts the official list of events to submit their FRS Form 1. Once the FRM and Frequency Bias Settings have been validated by the ERO, the ERO will disseminate the Frequency Bias Settings Report for all Balancing Authorities in each Interconnection along with the implementation date.

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.

2.0 Violation Severity Levels (To be added later)

R#	Lower VSL	Medium VSL	High VSL	Severe VSL
R1				
R2				
R3				
R4				

E. Regional Variance

None

F. Associated Documents

Attachment A - Frequency Response Standard Background Document

FRS Form 1

FRS Form 1 Instructions

Field Test Document

G. Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
1		Complete Revision under Project 2007-12	Revision