

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

DOE EAC Panel on Frequency Response and Grid Resilience

NERC Resources Subcommittee and BAL-003-1.1 Revision Activities

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RELIABILITY | ACCOUNTABILITY



Purpose

- *The Resources Subcommittee (RS) assists the NERC Operating Committee (OC) in enhancing Bulk Electric System (BES) reliability by implementing the goals and objectives of the OC Strategic Plan with respect to issues in the areas of balancing resources and demand, interconnection frequency, and control performance.*

Functions – *the RS accomplishes this by:*

- *Reviewing and assisting in the development of generation and load “balancing” standards, which may include developing any necessary reference documents*
- *Reviewing and assisting in the development of interconnection balancing standards to assure problems resulting from balancing do not adversely affect reliability*
- *Providing oversight and guidance to working groups and task forces*
- *Providing industry leadership and guidance on matters relating to balancing resources and demand issues as well as resulting issues related to interconnection frequency*

Functions (cont'd)

- *Addressing the reliability aspects of inadvertent interchange creation, accounting, and payback*
- *Reviewing balancing authorities' control performance (e.g., CPS and DCS) on a periodic basis*
- *Addressing technical issues on automatic generation control (AGC), time error correction, operating reserve, and frequency response*
- *Providing oversight and guidance on aspects of interchange scheduling as it applies to impacts on balancing and inadvertent interchange*

Deliverables

- *Determination and issuance of yearly CPS Bounds Report*
- *Subcommittee report for the regularly scheduled OC meetings*
- *Endorsement of the Frequency Response Annual Analysis Report (Determination of the annual IFRO)*
- *Respond to other directives and requests of the NERC OC*

- Frequency Response Characteristic Survey Training Document
- Position Paper on Frequency Response
- Frequency Event Detection Methodology
- Frequency Response Standard Background Document
- Balancing Authority Frequency Response Obligations and Minimum Frequency Bias Settings
- ACE Diversity Interchange
- Generating Unit Operations During Complete Loss of Communications
- Integrating Reporting ACE with the NERC Reliability Standards
- Operating Reserve Management
- Primary Frequency Control

Phase I – the items that need to be addressed are to:

- Revise the IFRO calculation in BAL-003-1 due to issues identified in the 2016 Frequency Response Annual Analysis (FRAA) Report, such as the IFRO values with respect to Point C and varying Value B;
- Reevaluate the interconnections' Resource Contingency Protection Criteria;
- Reevaluate the frequency nadir point limitations (currently limited to t0 to t+12);
- Review and modify as necessary Attachment A of the Reliability Standard to remove administrative tasks and provide additional clarity, e.g., related to Frequency Response Reserve Sharing Groups (FRSG) and the timeline for Frequency Response and Frequency Bias Setting activities; and
- Make enhancements to the BAL-003-1.1 FRS Forms that include, but may not be limited to, the ability to collect and submit FRSG performance data.

In addition to fixing the inconsistencies outlined above, the SDT may separate the administrative and procedural items and propose that they be reassigned to an alternative process subject to Electric Reliability Organization (ERO) and North American Electric Reliability (NERC) Operating Committee approval.

Phase II – The intent of the Reliability Standard is to ensure sufficient Frequency Response for each interconnection. Allocation of the responsibility to provide Frequency Response needs to reflect current conditions of the grid and correspond with the entities which provide and/or coordinate its provision.

- Both the IFRO calculations and the allocation of IFROs to reliability entities are retrospective (up to 2 years). The review should determine if there are alternate methodologies which consider characteristics affecting Frequency Response (e.g., load response, mix and type of generation, Balancing Authority Area (BAA) footprint changes) to make allocation as equitable as possible;
- Although Balancing Authorities (BAs) and FRSGs are responsible for coordination and/or management of Frequency Response from both resources and loads, response from resources is not addressed. The review should determine if additional reliability entities should have responsibility (e.g., Generator Operators (GOPs)) for provision of generator governor response; and
- Review the measurement methodology of Frequency Response (both System and equipment level):
 - The Frequency Response Measure (FRM) should be reviewed to ensure that over-performance by one entity does not negatively impact the evaluation of performance by another.



Questions and Answers