

Standards Authorization Request Form

When completed, please email this form to:
sarcomm@nerc.net

NERC welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards. Please use this form to submit your request to propose a new or a revision to a NERC Reliability Standard.

Request to propose a new or a revision to a Reliability Standard

Title of Proposed Standard:	BAL-003-2 – Frequency Response and Frequency Bias Setting		
Date Submitted:			
SAR Requester Information			
Name:	Troy Blalock – Chair of the NERC Resource Subcommittee		
Organization:	NERC Resource Subcommittee		
Telephone:	803.217.2040	Email:	Jblalock@scana.com
SAR Type (Check as many as applicable)			
<input type="checkbox"/> New Standard	<input type="checkbox"/> Withdrawal of Existing Standard		
<input checked="" type="checkbox"/> Revision to Existing Standard	<input type="checkbox"/> Urgent Action		

SAR Information

Industry Need (What is the industry problem this request is trying to solve?):

The supporting documents for BAL-003-1.1 were developed using engineering judgment on the data collection and process needed to determine the Interconnection Frequency Response Obligation (IFRO) as well as the processing of raw data to determine compliance. Now that the standard is in place and the data is available for analysis, minor errors in assumptions as well as process inefficiencies have been identified. It is expected that as frequency response improves, the approaches embedded in the standard for annual samples may need to be modified. In addition to fixing the inconsistencies outlined below, the drafting team may separate the administrative and procedural items and reassign them to an alternative process subject to ERO and NERC Operating Committee approval.

The items that need to be addressed are:

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1. The IFRO calculation in BAL-003-1.1 needs to be revised due to inconsistencies identified in the 2016 Frequency Response Annual Analysis (FRAA) such as the IFRO values with respect to Point C and varying Value B.
2. Reevaluate the Eastern Interconnection Resource Contingency Protection Criteria.
3. Reevaluate the frequency nadir point limitations (currently limited to t_0 to $t+12$)
4. Clarification of language in Attachment A, i.e. related to Frequency Response Reserve Sharing Groups (FRSG) and the timeline for Frequency Response and Frequency Bias Setting activities.
5. The BAL-003-1.1 FRS Forms need enhancements that include, but may not be limited to, the ability to collect and submit FRSG performance data.

Purpose or Goal (How does this request propose to address the problem described above?):

Revise the BAL-003-1.1 standard and process documents to address: (1) the inconsistencies in calculation of IFROs due to interconnection Frequency Response performance changes of Point C and/or Value B; (2) the Eastern Interconnection Resource Contingency Protection Criteria; (3) the frequency nadir point limitations (currently limited to t_0 to $t+12$), (4) clarification of language in Attachment A, i.e. related to Frequency Response Reserve Sharing Groups (FRSG) and the timeline for Frequency Response and Frequency Bias Setting activities, (5) the BAL-003-1.1 FRS Forms need enhancements that include, but may not be limited to, the ability to collect and submit FRSG performance data. Additionally, the supporting procedural and process steps may be removed from Attachment A and captured in an ERO and NERC Operating Committee approved Reference Document such that timely process improvements can be made as future lessons are learned.

For additional information on items #1, 2 and 3, please refer to the 2016 FRAA Report.

Identify the Objectives of the proposed standard's requirements (What specific reliability deliverables are required to achieve the goal?):

1. The IFRO calculation in BAL-003-1.1 needs to be revised due to inconsistencies identified in the 2016 Frequency Response Annual Analysis (FRAA) such as the IFRO values with respect to Point C and varying Value B.
2. Reevaluate the Eastern Interconnection Resource Contingency Protection Criteria.
3. Reevaluate the frequency nadir point limitations (currently limited to t_0 to $t+12$)
4. Clarification of language in Attachment A, i.e. related to Frequency Response Reserve Sharing Groups (FRSG) and the timeline for Frequency Response and Frequency Bias Setting activities.
5. The BAL-003-1.1 FRS Forms need enhancements that include, but may not be limited to, the ability to collect and submit FRSG performance data.

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Brief Description (Provide a paragraph that describes the scope of this standard action.)
<p>During the 2016 annual evaluation of the values used in the calculation of the IFRO the above mentioned issues were identified. The scope of the work will be to (1) address the inconsistency in the ratio of Point C to Value B, (2) reevaluate the Resource Contingency Protection Criteria for each interconnection, (3) reevaluate the frequency nadir point limitations (currently limited to t_0 to $t+12$), and (4) clarify language in Attachment A; (5) The BAL-003-1.1 FRS Forms need enhancements that include, but may not be limited to, the ability to collect and submit FRSG performance data and identify opportunities to make current processes more efficient.</p> <p>For additional information on items #1, 2 and 3, please refer to the 2016 FRAA Report.</p>
Detailed Description (Provide a description of the proposed project with sufficient details for the standard drafting team to execute the SAR. Also provide a justification for the development or revision of the standard, including an assessment of the reliability and market interface impacts of implementing or not implementing the standard action.)
<p>Consider revising the BAL-003-1.1 standard concerning #1 above through the standards development process to correct the inconsistency in the ratio of Point C to Value B. This ratio in the IFRO calculation couples Point C and Value B together, resulting in IFRO trends that do not align with the intent of the standard. Improvement in Value B with no change in Point C (improving recovery phase) would result in higher obligations to be carried, essentially penalizing improved performance.</p> <p>Consider revising the BAL-003-1.1 standard concerning #2 above through the standards development process to modify the Resource Contingency Protection Criteria (RCPC). The RCPC for each interconnection should be revised to help ensure sufficient primary frequency response is maintained. The Eastern Interconnection uses the “largest resource event in last 10 years”, which is the August 4, 2007 event. The standard drafting team should revisit this issue for modifications to BAL-003-1.1 standard, and the Resources Subcommittee should recommend how the events are selected for each interconnection.</p> <p>Consider revising the BAL-003-1.1 standard concerning #3 above through the standards development process to revisit the frequency nadir point used in the calculation. Many events, particularly in the Eastern Interconnection due to its large synchronous inertia, tend to have a frequency nadir point that exceeds the $t_0 +12$ seconds specified in BAL-003-1.1. Therefore, some events are characterized with a Point C value that is only partially down the arresting period of the event and does not accurately reflect the actual nadir. BAL-003-1.1 should be modified to allow for accurate representation of the Point C nadir value if exceeding beyond t_0+12 seconds. The actual event nadir can occur at any time, including</p>

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beyond the time period used for calculating Value B (t_0+20 through t_0+52 seconds), and may be the value known as Point C' which typically occurs in the 72 to 95 second range after t_0 .

Consider revising BAL-003-1.1 Attachment A to provide clarity of intent giving particular attention to FRSGs and the timeline for Balancing Authority Frequency Response and Frequency Bias Setting Activities. Consider transferring supporting procedural and process steps from Attachment A into an ERO and NERC Operating Committee approved Reference Document or Reliability Guideline.

Consider revising the BAL-003-1.1 standard concerning #4 above through the standards development process to provide enhancements of the FRS Forms that include, but may not be limited to, the ability to collect and submit FRSG performance data.

Reliability Functions

The Standard will Apply to the Following Functions (Check each one that applies.)

<input type="checkbox"/> Reliability Coordinator	Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator's wide area view.
<input checked="" type="checkbox"/> Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within a Balancing Authority Area and supports Interconnection frequency in real time.
<input type="checkbox"/> Interchange Authority	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
<input type="checkbox"/> Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.
<input type="checkbox"/> Resource Planner	Develops a one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.
<input type="checkbox"/> Transmission Planner	Develops a one year plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.

Reliability Functions	
<input type="checkbox"/> Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
<input type="checkbox"/> Transmission Owner	Owns and maintains transmission facilities.
<input type="checkbox"/> Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
<input type="checkbox"/> Distribution Provider	Delivers electrical energy to the end-use customer.
<input type="checkbox"/> Generator Owner	Owns and maintains generation facilities.
<input type="checkbox"/> Generator Operator	Operates generation unit(s) to provide real and reactive power.
<input type="checkbox"/> Purchasing-Selling Entity	Purchases or sells energy, capacity, and necessary reliability-related services as required.
<input type="checkbox"/> Market Operator	Interface point for reliability functions with commercial functions.
<input type="checkbox"/> Load-Serving Entity	Secures energy and transmission service (and reliability-related services) to serve the end-use customer.

Reliability and Market Interface Principles	
Applicable Reliability Principles (Check all that apply).	
<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained and implemented.
<input type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Reliability and Market Interface Principles	
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.
Does the proposed Standard comply with all of the following Market Interface Principles?	
1. A reliability standard shall not give any market participant an unfair competitive advantage.	Enter (yes/no) Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

Related Standards	
Standard No.	Explanation
None	

Related SARs	
SAR ID	Explanation
None	

Related SARs	

Regional Variances	
Region	Explanation
ERCOT	None.
FRCC	None.
MRO	None.
NPCC	None.
RFC	None.
SERC	None.
SPP	None.
WECC	None.

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template