



Reliability*First* Regional Criteria¹

Operating Reserves

¹ A Reliability*First* Board of Directors approved good utility practice document which are not reliability standards. Reliability*First* Regional Criteria may also address issues not within the scope of reliability standards, Reliability*First* Regional Criteria may include specific acceptable operating or planning parameters, guides, agreements, protocols or other documents used to enhance the reliability of the regional Bulk Electric System. Reliability*First* Regional Criteria will typically provide benefits by promoting more consistent implementation of the NERC reliability standards within the Region. Reliability*First* Regional Criteria are not NERC reliability standards, regional reliability standards, or regional variances, and therefore are not enforceable under authority delegated by NERC pursuant to delegation agreements and do not require NERC approval.

A. Introduction

1. **Title:** Operating Reserves
2. **Number:** RFC_Criteria_BAL-002 -02
3. **Purpose:** To establish ReliabilityFirst Corporation (ReliabilityFirst) criteria for Operating Reserves to support NERC Reliability Standard BAL-002.
4. **Applicability:** Balancing Authorities (BA) within ReliabilityFirst footprint
5. **Effective Date:** 08/29/2012

B. Criteria

- C1** Each Balancing Authority, either individually or through participation in a Reserve Sharing Group, should have a documented methodology to determine its Operating Reserves-Spinning and Operating Reserves-Supplemental, including the limitations, if any, upon the amount of interruptible load that may be included as Contingency Reserves that is used to plan for the next operating day, or should²:
- C1.1** Have a minimum Operating Reserves – Spinning requirement of at least 50% of the Balancing Authority’s most severe single contingency and the remainder of the Contingency Reserves to be made up of any combination of Operating Reserves – Spinning and Operating Reserves – Supplemental.
 - C1.2** Implement its Contingency Reserve upon the contingent loss of generation equal to 80% or more of its most severe single contingency
 - C1.3** Not allocate interruptible load as Operating Reserves-Spinning.
 - C1.4** Not allocate more than 25% of Operating Reserves-Supplemental as interruptible load.
 - C1.5** Document the criteria under C1.1 through C1.4 in a methodology to plan for the next operating day.
- C2** The same portion of any resource should not be counted more than once as Contingency Reserves by multiple Balancing Authorities.
- C2.1** The Balancing Authority should document any amount of resources within its Balancing Authority Area designated as Contingency Reserves by another Balancing Authority.

² NERC BAL-002 defines the minimum Contingency Reserves requirement applicable to Balancing Authorities and Reserve Sharing Groups

- C2.2** The Balancing Authority should document any amount of resources outside its Balancing Authority Area included in its Contingency Reserves.
- C3** On an annual basis the Balancing Authority, either individually or through participation in a Reserve Sharing Group, should review and update its methodology followed under C1.
- C4** Each Balancing Authority should document its most severe single contingency, as used in C1 for the determination of the Contingency Reserve requirement, and projected resources for Contingency Reserves for the peak hour of the next operating day for its Balancing Authority Area as follows³:

 - C4.1** Each Balancing Authority should document its required and projected resources in MWs for Contingency Reserves identifying the amount designated as Operating Reserve – Spinning and Operating Reserve – Supplemental, and the amount of interruptible load included as Contingency Reserves, if any, in accordance with C1.

C. Measures

- M1** Each Balancing Authority should have evidence of its methodology in accordance with C1.
- M2** Each Balancing Authority should have documentation in accordance with C2.
- M3** Each Balancing Authority, either individually or through participation in a Reserve Sharing Group, should have evidence that it reviewed and updated its methodology in accordance with C3.
- M4** Each Balancing Authority should have documentation in accordance with C4.

D. Definitions

The following are definitions of terms used in these Criteria

NOTE: These definitions are consistent with the NERC Glossary as of the effective date of this Criteria but may differ if the NERC Glossary changes.

AGC: Equipment that automatically adjusts generation in a Balancing Authority Area from a central location to maintain the Balancing Authority's interchange schedule plus Frequency Bias. AGC may also accommodate automatic inadvertent payback and time error correction.

Balancing Authority: The responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real time.

³ This information may be requested by the Reliability Coordinator under NERC IRO-004 R4

Balancing Authority Area: The collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load resource balance within this area.

Contingency Reserve: The provision of capacity deployed by the Balancing Authority to meet the Disturbance Control Standard (DCS) and other NERC and Regional Reliability Organization contingency requirements.

Operating Reserve - Supplemental: The portion of Operating Reserve consisting of:

- Generation (synchronized or capable of being synchronized to the system) that is fully available to serve load within the Disturbance Recovery Period following the contingency event; or
- Load fully removable from the system within the Disturbance Recovery Period following the contingency event.

Operating Reserve – Spinning: The portion of Operating Reserve consisting of:

- Generation synchronized to the system and fully available to serve load within the Disturbance Recovery Period following the contingency event; or
- Load fully removable from the system within the Disturbance Recovery Period following the contingency event.

Reliability Coordinator: The entity that is the highest level of authority who is responsible for the reliable operation of the Bulk Electric System, has the Wide Area view of the Bulk Electric System, and has the operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next day analysis and real-time operations. The Reliability Coordinator has the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of transmission systems beyond any Transmission Operator’s vision.

Reserve Sharing Group: A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply operating reserves required for each Balancing Authority’s use in recovering from contingencies within the group. Scheduling energy from an Adjacent Balancing Authority to aid recovery need not constitute reserve sharing provided the transaction is ramped in over a period the supplying party could reasonably be expected to load generation in (e.g., ten minutes). If the transaction is ramped in quicker (e.g., between zero and ten minutes) then, for the purposes of Disturbance Control Performance, the Areas become a Reserve Sharing Group.

E. IntraRegional Differences

None

F. Notes

Balancing Authorities are permitted to define Supplemental (30 Minute) Reserves as an option.

Version History

Version	Date	Action	Change Tracking
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RFC_Criteria_BAL-002-02

RFC-OPR-001-0	12/12/05	Approved by Reliability <i>First</i> Board	
RFC-OPR-001-1 1 st Draft	08/16/06 Through 09/17/06	Posted for 1 st 30-Day Comment Period	
RFC-OPR-001-1 2 nd Draft	10/30/06 Through 11/28/06	Posted for 2 nd 30-Day Comment Period	
RFC-OPR-001-1 3 rd Draft	12/15/06 Through 01/15/07	Posted for 3 rd 30-Day Comment Period	
RFC-OPR-001-1 4 th Draft	02/21/07 Through 03/07/07	Posted for 15-Days prior to Membership Ballot	
RFC-OPR-001-1 4 th Draft	03/12/07 Through 03/26/07	Posted for 15-Day Membership Ballot	
RFC-OPR-001-1 4 th Draft	03/30/07	Removed Regulating Reserve and Regulation Service Definition	Errata
RFC-OPR-001-1 4 th Draft	03/30/07 Through 04/28/07	Posted for 30-Days prior to Board Action	
BAL-002-RFC-02 4 th Draft	04/12/07	Changed Standard Number - BAL-002-RFC-02	Conforming Change
BAL-002-RFC-02 Approved	05/09/07	Changed Effective Date - May 9 th , 2007 Changed Header - Standard BAL-002-RFC-02 — Operating Reserves Changed Footer - Approved by Reliability <i>First</i> Board of Directors: May 9 th , 2007 Effective Date: May 9 th , 2007	Conforming Change due to RFC Board Approval
RFC_Criteria_BAL-002-RFC-02	08/29/12	Reliability <i>First</i> Board converted to Regional Criteria	New naming convention, removed mandatory language, removed VRFs, VSLs and compliance section