UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

North American Electric Reliability Corporation	**)** **)**	**Docket No. _____**

JOINT PETITION OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION AND WESTERN ELECTRICITY COORDINATING COUNCIL FOR APPROVAL OF INTERPRETATION OF REGIONAL RELIABILITY STANDARD BAL-002-WECC-2a

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November 9, 2016

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Pursuant to Section 215(d)(1) of the Federal Power Act ("FPA")[1] and Section 39.5[2] of the Federal Energy Regulatory Commission's ("FERC" or "Commission") regulations, the North American Electric Reliability Corporation ("NERC")[3] and the Western Electricity Coordinating Council ("WECC") hereby submit for Commission approval a proposed interpretation of regional Reliability Standard BAL-002-WECC-2. The proposed interpretation provides clarification, consistent with the Commission's Order No. 789 approving BAL-002-WECC-2,[4] that certain technologies, both contemplated and not yet contemplated, may be used as potential resources to meet the Operating Reserve-Spinning[5] requirement, so long as the resource can meet the response characteristics described in the standard.

NERC and WECC request that the Commission approve proposed regional Reliability Standard BAL-002-WECC-2a (**Exhibit A**), an interpretation of regional Reliability Standard

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1 16 U.S.C. § 824o (2012).

2 18 C.F.R. § 39.5 (2016).

3 The Commission certified NERC as the electric reliability organization ("ERO") in accordance with Section 215 of the FPA on July 20, 2006. *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61,062 (2006).

4 *Regional Reliability Standard BAL-002-WECC-2 – Contingency Reserve*, Order No. 789, 145 FERC ¶ 61,141 (2013) ("Order No. 789").

5 Unless otherwise designated, capitalized terms shall have the meaning set forth in the *Glossary of Terms Used in NERC Reliability Standards* ("*NERC Glossary of Terms*"), *available at* http://www.nerc.com/files/Glossary_of_Terms.pdf.

BAL-002-WECC-2 – Contingency Reserve, and find that the proposed interpretation is just, reasonable, not unduly discriminatory or preferential, and in the public interest. NERC and WECC also request approval of the associated implementation plan (**Exhibit B**).

As required by Section 39.5(a)[6] of the Commission's regulations, this petition presents the technical basis and purpose of proposed regional Reliability Standard BAL-002-WECC-2a and a summary of the interpretation development history. The proposed interpretation was approved by the WECC Board of Directors on June 16, 2016 and was adopted by the NERC Board of Trustees on November 2, 2016.

I. NOTICES AND COMMUNICATIONS

Notices and communications with respect to this filing may be addressed to the following:[7]

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II. BACKGROUND

A. Regulatory Framework

By enacting the Energy Policy Act of 2005,[8] Congress entrusted the Commission with the duties of approving and enforcing rules to ensure the reliability of the Bulk Power System,

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[6] 18 C.F.R. § 39.5(a) (2016).

[7] Persons to be included on the Commission's service list are identified by an asterisk. NERC respectfully requests a waiver of Rule 203 of the Commission's regulations, 18 C.F.R. § 385.203 (2016), to allow the inclusion of more than two persons on the service list in this proceeding.

[8] 16 U.S.C. § 824o (2012).

and with the duties of certifying an ERO that would be charged with developing and enforcing mandatory Reliability Standards, subject to Commission approval. Section 215(b)(1)[9] of the FPA states that all users, owners, and operators of the Bulk Power System in the United States will be subject to Commission-approved Reliability Standards. Section 215(d)(5)[10] of the FPA authorizes the Commission to order the ERO to submit a new or modified Reliability Standard. Section 39.5(a)[11] of the Commission's regulations requires the ERO to file with the Commission for its approval each Reliability Standard that the ERO proposes should become mandatory and enforceable in the United States, and each modification to a Reliability Standard that the ERO proposes should be made effective.

The Commission is vested with the regulatory responsibility to approve Reliability Standards that protect the reliability of the Bulk Power System and to ensure that Reliability Standards are just, reasonable, not unduly discriminatory or preferential, and in the public interest. Pursuant to Section 215(d)(2) of the FPA[12] and Section 39.5(c)[13] of the Commission's regulations, the Commission will give due weight to the technical expertise of the ERO with respect to the content of a Reliability Standard. Under these same authorities, the Commission will give due weight to the technical expertise of a Regional Entity, like WECC, that is organized on an Interconnection-wide basis with respect to a regional Reliability Standard to be applicable within that Interconnection.

A regional Reliability Standard proposed by a Regional Entity must meet the same standards that NERC's Reliability Standards must meet; i.e., the regional Reliability Standard

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9 *Id.* § 824o(b)(1).

10 *Id.* § 824o(d)(5).

11 18 C.F.R. § 39.5(a) (2016).

12 16 U.S.C. § 824o(d)(2)(2012).

13 18 C.F.R. § 39.5(c)(1)(2016).

must be shown to be just, reasonable, not unduly discriminatory or preferential, and in the public interest.[14] Order No. 672 provides additional criteria that a regional Reliability Standard must satisfy. Specifically, a regional difference from a continent-wide Reliability Standard must either be: (1) more stringent than the continent-wide Reliability Standard (which includes a regional standard that addresses matters that the continent-wide Reliability Standard does not), or (2) necessitated by a physical difference in the Bulk-Power System.[15]

WECC is a Regional Entity organized on an Interconnection-wide basis. WECC regional Reliability Standards are intended to apply only in the Western Interconnection. WECC develops regional Reliability Standards in accordance with its *Reliability Standards Development Procedures* ("RSDP").[16] As discussed in the WECC RSDP, WECC regional Reliability Standards are developed through a transparent, inclusive, open, and balanced process with reasonable notice and opportunity for public comment. Proposed WECC regional Reliability Standards are subject to approval by NERC, as the ERO, and FERC before becoming mandatory and enforceable under Section 215 of the FPA.

B. Interpretation Procedural History

The Commission approved regional Reliability Standard BAL-002-WECC-2 – Contingency Reserve in Order No. 789, issued on November 21, 2013.[17] On March 5, 2015, Arizona Public Service Company ("APS") submitted a Standard Authorization Request -

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[14] 16 U.S.C. § 824o(d)(2) and 18 C.F.R. § 39.5(a).

[15] Order No. 672, *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, FERC Stats. & Regs. ¶ 31,204 at P 291, *order on reh'g*, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

[16] The WECC RSDP was approved by the Commission on December 23, 2014 (*see N. Am. Elec. Reliability Corp.*, Docket No. RR14-8-000 (Dec. 23, 2014) (unpublished letter order)) and is available at http://www.nerc.com/FilingsOrders/us/Regional%20Delegation%20Agreements%20DL/WECC_RSDP_20141223.pdf

[17] Order No. 789, *supra* note 4 at 1.

Request for Interpretation of BAL-002-WECC-2. Citing Order No. 789, APS sought clarification that APS and other Balancing Authorities and/or Reserve Sharing Groups "can include 'technologies, such as batteries, both contemplated and not yet contemplated…as potential resources [to meet the Operating Reserve-Spinning requirement of BAL-002-WECC-2, Requirement R2] – so long as the …resource can meet the response characteristics described in the standard." The WECC Standards Committee approved the SAR on March 10, 2015 and a drafting team was appointed.

The proposed interpretation was posted for a 45-day public comment period from May 4, 2015 through June 18, 2015. The ballot for the proposed interpretation ran from July 23, 2015 through August 7, 2015. The proposed interpretation achieved a 73.3% quorum and 100% approval. Pursuant to the NERC Rules of Procedure, the proposed interpretation was posted at NERC for a 45-day public comment period from August 4, 2015 through September 17, 2015. Three sets of supportive responses were received.

The proposed interpretation was approved by the WECC Board of Directors on June 16, 2016 and was adopted by the NERC Board of Trustees on November 2, 2016.

III. **JUSTIFICATION FOR APPROVAL**

The purpose of the currently-effective continent-wide BAL-002 Disturbance Control Performance Reliability Standard is to ensure the Balancing Authority is able to utilize its Contingency Reserve to balance resources and demand and return Interconnection frequency within defined limits following a Reportable Disturbance. The purpose of regional Reliability Standard BAL-002-WECC-2 — Contingency Reserve is to provide a regional Reliability Standard that specifies the quantity and types of Contingency Reserve required to ensure reliability under normal and abnormal conditions.

The proposed interpretation provides clarity regarding the types of resources that may be used to satisfy the Contingency Reserve requirements of BAL-002-WECC-2; specifically, the resources that may qualify as Operating Reserve – Spinning under the standard. As discussed below, the proposed interpretation is consistent with the Commission's Order No. 789 approving the regional standard. NERC and WECC respectfully request that the Commission approve the proposed interpretation as just, reasonable, not unduly discriminatory or preferential, and in the public interest.

A. Order No. 789: Non-Traditional Resources May Qualify as Operating Reserve - Spinning

BAL-002-WECC-2 Requirement R1.2 provides that each Balancing Authority and each Reserve Sharing Group shall maintain a minimum amount of Contingency Reserve that is comprised by any combination of a number of reserve types, including Operating Reserve – Spinning. Operating Reserve – Spinning is defined in the *Glossary of Terms Used in NERC Reliability Standards* as follows:

> 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.

BAL-002-WECC-2 Requirement R2 provides that each Balancing Authority and each Reserve Sharing Group shall maintain at least half of its minimum amount of Contingency Reserve per Requirement R1 as Operating Reserve – Spinning that meets two reserve characteristics: (i) Reserve that is immediately and automatically responsive to frequency

deviations through the action of a governor or other control system; and (ii) Reserve that is capable of fully responding within ten minutes.

Responding to comments submitted by the California Independent System Operator Corporation, the Commission determined in Order No. 789 that non-traditional resources may qualify as "Operating Reserve – Spinning" for purposes of BAL-002-WECC-2 so long as those resources satisfied the technical and performance requirements in Requirement R2. The Commission stated:

> The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language delineates how that technology must [] respond." We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption." (internal citation omitted).[18]

As discussed below, the Commission's determination in paragraph 48 of Order No. 789 forms the basis for the proposed interpretation.

B. Proposed Interpretation

Regional Reliability Standard BAL-002-WECC-2a adds the following interpretation to Section E of the standard:

> Arizona Public Service (APS) sought clarification that for purposes of BAL-002-WECC-2, Requirement R2, APS and other Balancing Authorities and/or Reserve Sharing Groups can include "technologies, such as batteries, both contemplated and not yet

[18] Order No. 789 at P 48.

contemplated…as potential resources [to meet the Operating Reserve – Spinning requirement of BAL-002-WECC-2, Requirement R2] – so long as the…resource can meet the response characteristics described in the standard."

A standards interpretation team comprised of members of the original BAL drafting team concluded that APS' understanding was correct.

"[N]on-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" so long as they meet the technical and performance requirements in Requirement R2 (i.e., that the resources must be immediately and automatically responsive to frequency deviations through the action of a control system and capable of fully responding within ten minutes).[FN1]

In Order 789, Paragraph 48, the Federal Energy Regulatory Commission (Commission) responded to the California Independent System Operator that:

Commission Determination
48. The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language delineates how that technology must [] respond."[FN2] We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption."

[FN1]: FERC Order 789, P47. July 18, 2013.

See also FERC Order 740, Section E, Demand-Side Management as a Resource, at P 50: "The Commission clarified that the purpose of this directive was to ensure comparable treatment of demand-side management with conventional generation or any other technology and to allow demand-side management to be considered as a

> resource for contingency reserves on this basis without requiring the use of any particular contingency reserve option."
>
> [FN2]: "Fn 44 Petition, Exhibit C at 20."

The proposed interpretation thus incorporates, into the standard document, the Commission's determination in Order No. 789 that non-traditional resources may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Inclusion of the proposed interpretation provides clarity to Balancing Authorities and Reserve Sharing Groups in the WECC region regarding the types of resources that may be used to meet the minimum Contingency Reserve requirements of the standard.

IV. **EFFECTIVE DATE**

NERC and WECC respectfully request that the Commission approve the proposed implementation plan attached to this Petition as **Exhibit B**. NERC and WECC propose that regional Reliability Standard BAL-002-WECC-2a become effective immediately upon regulatory approval.

V. **CONCLUSION**

For the reasons set forth above, NERC and WECC respectfully request that the Commission:

- approve proposed regional Reliability Standard BAL-002-WECC-2a, an interpretation of BAL-002-WECC-2 – Contingency Reserve, included in **Exhibit A**; and
- approve the implementation plan included in **Exhibit B.**

Respectfully submitted,

/s/ Lauren A. Perotti

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November 9, 2016

Exhibit A

Proposed Regional Reliability Standard BAL-002-WECC-2a

Proposed Regional Reliability Standard BAL-002-WECC-2a

Clean Version

A. Introduction

1. **Title:** **Contingency Reserve**

2. **Number:** BAL-002-WECC-2a

3. **Purpose:** To specify the quantity and types of Contingency Reserve required to ensure reliability under normal and abnormal conditions.

4. **Applicability:**

   4.1 Balancing Authority

   4.1.1. The Balancing Authority is the responsible entity unless the Balancing Authority is a member of a Reserve Sharing Group, in which case, the Reserve Sharing Group becomes the responsible entity.

   4.2 Reserve Sharing Group

   4.2.1. The Reserve Sharing Group when comprised of a Source Balancing Authority becomes the source Reserve Sharing Group.

   4.2.2. The Reserve Sharing Group when comprised of a Sink Balancing Authority becomes the sink Reserve Sharing Group.

5. **Effective Date:** See Implementation Plan.

B. Requirements and Measures

R1. Each Balancing Authority and each Reserve Sharing Group shall maintain a minimum amount of Contingency Reserve, except within the first sixty minutes following an event requiring the activation of Contingency Reserve, that is: [*Violation Risk Factor: High] [Time Horizon: Real-time operations]*

1.1 The greater of either:

- The amount of Contingency Reserve equal to the loss of the most severe single contingency;
- The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation.

1.2 Comprised of any combination of the reserve types specified below:

- Operating Reserve – Spinning

- Operating Reserve - Supplemental
- Interchange Transactions designated by the Source Balancing Authority as Operating Reserve – Supplemental
- Reserve held by other entities by agreement that is deliverable on Firm Transmission Service
- A resource, other than generation or load, that can provide energy or reduce energy consumption
- Load, including demand response resources, Demand-Side Management resources, Direct Control Load Management, Interruptible Load or Interruptible Demand, or any other Load made available for curtailment by the Balancing Authority or the Reserve Sharing Group via contract or agreement.
- All other load, not identified above, once the Reliability Coordinator has declared an energy emergency alert signifying that firm load interruption is imminent or in progress.

1.3 Based on real-time hourly load and generating energy values averaged over each Clock Hour (excluding Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464).

1.4 An amount of capacity from a resource that is deployable within ten minutes.

M1. Each Balancing Authority and each Reserve Sharing Group will have documentation demonstrating its Contingency Reserve was maintained, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Part 1.1

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates its Contingency Reserve was maintained in accordance with the amounts identified in Requirement R1, Part 1.1, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Attachment A is a practical illustration showing how the generation amount may be calculated under Requirement R1.

- Where Dynamic Schedules are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1 may include, but is not limited to, documentation showing a reciprocal acknowledgement as to which entity is carrying the reserves. This transfer may be all or some portion of

the physical generator and is not limited to the entire physical capability of the generator.

- Where Pseudo-Ties are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1, may include, but is not limited to, documentation accounting for the transfers included in the Pseudo-Ties.

Part 1.2

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.2. Evidence may include, but is not limited to, documentation that reserves were comprised of the types listed in Requirement R1, Part 1.2 for purposes of meeting the Contingency Reserve obligation of Requirement R1. Additionally, for purposes of the last bullet of Requirement R1, Part 1.2, evidence of compliance may include, but is not limited to, documentation that the reliability coordinator had issued an energy emergency alert, indicating that firm Load interruption was imminent or was in progress.

Part 1.3

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.3. Evidence of compliance with Requirement R1, Part 1.3 may include, but is not limited to, documentation that Contingency Reserve amounts are based upon load and generating data averaged over each Clock Hour and excludes Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464.

Part 1.4

Evidence of compliance with Requirement R1, Part 1.4 may include, but is not limited to, documentation that the reserves maintained to comply with Requirement R1, Part 1.4 are fully deployable within ten minutes.

R2. Each Balancing Authority and each Reserve Sharing Group shall maintain at least half of its minimum amount of Contingency Reserve identified in Requirement R1, as Operating Reserve – Spinning that meets both of the following reserve characteristics. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

2.1 Reserve that is immediately and automatically responsive to frequency deviations through the action of a governor or other control system;

2.2 Reserve that is capable of fully responding within ten minutes.

M2. Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates it maintained at least half of the Contingency Reserve identified in Requirement R1 as Operating Reserve – Spinning, averaged over each Clock Hour, that met both of the reserve characteristics identified in Requirement R2, Part 2.1 and Requirement R2, Part 2.2.

R3. Each Sink Balancing Authority and each sink Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, except within the first sixty minutes following an event requiring the activation of Contingency Reserve. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M3. Each Sink Balancing Authority and each sink Reserve Sharing Group will have dated documentation demonstrating it maintained an amount of Operating Reserve, in addition to the Contingency Reserve identified in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, for the entire period of the transaction, except within the first sixty minutes following an event requiring the activation of Contingency Reserves, in accordance with Requirement 3.

R4. Each Source Balancing Authority and each source Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve amounts identified in Requirement R1, equal to the amount and type of Operating Reserves for any Operating Reserve transactions for which it is the Source Balancing Authority or source Reserve Sharing Group. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M4. Each Source Balancing Authority and each source Reserve Sharing Group will have dated documentation that demonstrates it maintained an amount of additional Operating Reserves identified in Requirement R1, greater than or equal to the amount and type of that identified in Requirement 4, for the entire period of the transaction.

C. Compliance

1. Compliance Monitoring Process

1.1 Compliance Enforcement Authority

For entities that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.

For Reliability Coordinators and other functional entities that work for their Regional Entity, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

For responsible entities that are also Regional Entities, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

1.2 Compliance Monitoring and Assessment Processes:

Compliance Audit

Self-Certification

Spot Checking

Compliance Investigation

Self-Reporting

Complaint

1.3 Evidence Retention

The following evidence retention periods identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each Balancing Authority and each Reserve Sharing Group shall keep evidence for Requirement R1 through R4 for three years plus calendar current.

1.4. Additional Compliance Information

1.4.1. This Standard shall apply to each Balancing Authority and each Reserve Sharing Group that has registered with WECC as provided in Part 1.4.2 of Section C.

Each Balancing Authority identified in the registration with WECC as provided in Part 1.4.2 of Section C shall be responsible for compliance with this Standard through its participation in the Reserve Sharing Group and not on an individual basis.

1.4.2. A Reserve Sharing Group may register as the Responsible Entity for purposes of compliance with this Standard by providing written notice to

the WECC: 1) indicating that the Reserve Sharing Group is registering as the Responsible Entity for purposes of compliance with this Standard, 2) identifying each Balancing Authority that is a member of the Reserve Sharing Group, and 3) identifying the person or organization that will serve as agent on behalf of the Reserve Sharing Group for purposes of communications and data submissions related to or required by this Standard.

1.4.3. If an agent properly designated in accordance with Part 1.4.2 of Section C identifies individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission, together with the percentage of responsibility attributable to each identified Balancing Authority, then, except as may otherwise be finally determined through a duly conducted review or appeal of the initial finding of noncompliance: 1) any penalties assessed for noncompliance by the Reserve Sharing Group shall be allocated to the individual Balancing Authorities identified in the applicable data submission in proportion to their respective percentages of responsibility as specified in the data submission, 2) each Balancing Authority shall be solely responsible for all penalties allocated to it according to its percentage of responsibility as provided in subsection 1) of this Part 1.4.3 of Section C, and 3) neither the Reserve Sharing Group nor any member of the Reserve Sharing Group shall be responsible for any portion of a penalty assessed against another member of the Reserve Sharing Group in accordance with subsection 1) of this Part 1.4.3 of Section C (even if the member of Reserve Sharing Group against which the penalty is assessed is not subject to or otherwise fails to pay its allocated share of the penalty).

1.4.4. If an agent properly designated in accordance with Part 1.4.2 of Section C fails to identify individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission or fails to specify percentages of responsibility attributable to each identified Balancing Authority, any penalties for noncompliance shall be assessed against the agent on behalf of the Reserve Sharing Group, and it shall be the responsibility of the members of the Reserve Sharing Group to allocate responsibility for such noncompliance.

1.4.5. Any Balancing Authority that is a member of a Reserve Sharing Group that has failed to register as provided in Part 1.4.2 of Section C shall be subject to this Standard on an individual basis.

Table of Compliance Elements

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.
R2	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 100% but greater than or equal to 90% of	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 90% but greater than or	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 80% but greater than or	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 70% of the required

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	equal to 80% of the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	equal to 70% of the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.
R3	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R3.
R4	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Operating Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R4.	Operating Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R4.	Operating Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R4.	Operating Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R4.

D. Regional Variances
None.

E. Interpretations

Interpretation Requested

Arizona Public Service (APS) sought clarification that for purposes of BAL-002-WECC-2, Requirement R2, APS and other Balancing Authorities and/or Reserve Sharing Groups can include "technologies, such as batteries, both contemplated and not yet contemplated…as potential resources [to meet the Operating Reserve – Spinning requirement of BAL-002-WECC-2, Requirement R2] – so long as the…resource can meet the response characteristics described in the standard."

A standards interpretation team comprised of members of the original BAL drafting team concluded that APS' understanding was correct.

"[N]on-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" so long as they meet the technical and performance requirements in Requirement R2 (i.e., that the resources must be immediately and automatically responsive to frequency deviations through the action of a control system and capable of fully responding within ten minutes).[1]

[1] FERC Order 789, P47. July 18, 2013.

See also FERC Order 740, Section E, Demand-Side Management as a Resource, at P 50:
"The Commission clarified that the purpose of this directive was to ensure comparable treatment of demand-side management with conventional generation or any other technology and to allow demand-side management

In Order 789, Paragraph 48, the Federal Energy Regulatory Commission (Commission) responded to the California Independent System Operator that:

> **Commission Determination**
>
> 48. The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language delineates how that technology must [] respond."[2] We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption."

to be considered as a resource for contingency reserves on this basis without requiring the use of any particular contingency reserve option."

[2] "Fn 44 Petition, Exhibit C at 20."

F. Associated Documents

None.

Attachment A

Attachment A is illustrative only; it is not a requirement. Requirement R1 calls for an amount of Contingency Reserve to be maintained, predicated on an amount of generation and load required in Requirement R1, Part 1.1., specifically:

> **"1.1** The greater of either:
>
> - The amount of Contingency Reserve equal to the loss of the most severe single contingency;
> - The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation."

Attachment A illustrates one possible way to account for and calculate the amount of generation upon which the Contingency Reserve amount is predicated.

Below is a practical illustration showing how the generation amount may be calculated under Requirement R1 for Balancing Authorities (BA) and Reserve Sharing Groups (RSG).

BA1 / RSG 1	**Generation**	**Part of Generator**
Generator 1	300 MWs online	Yes
Generator 2	200 MWs online	Yes
Generator 3 (Pseudo-Tied out to BA2)	100 MWs online	No
Generator 4 QF (has backup contract)	10 MWs online	No
Generator 5 QF in EMS	10 MWs online	Yes
Generator 6	0 MWs online	Yes

Dynamic Schedule to BA2 from BA1[3]	(50 MWs)	
Generation	620 MWs	(The sum of gen 1-6)
BA generation (EMS)	510 MWs	(The sum of gen 1, 2, and 5)
Generation to use Under BAL-002-WECC-1	460 MWs**	(The sum of gen 1, 2 and 5 minus Dynamic Schedule)

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would maintain reserves based on 510 MWs Generation.

BA2 / RSG2	**Generation**	**Part of Generator**
Generator 11	100 MWs	Yes
Generator 12	100 MWs	Yes
Generator 3 (Pseudo-Tied in from BA1)	100 MWs	Yes

[3] Note: This Dynamic Schedule is not the same as the Generator 3 Pseudo-Tie.

Dynamic Schedule from BA1 to BA2	50 MWs	Yes
Generation	300 MWs	(The sum of gen 11, 12 and 3.)
BA generation (EMS)	300 MWs	(The sum of gen 11, 12 and 3)
Generation to use Under BAL-002-WECC-1	350 MWs**	(The sum of gen 11, 12 and 3 plus Dynamic Schedule)

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would have to maintain reserves based on 510MWs Generation and BA2 would determine its generation to be 300 MWs.

Guideline and Technical Basis

A Guidance Document addressing implementation of this standard has been filed with this standard.

Version History

Version	Date	Action	Change Tracking
1	October 29, 2008	Adopted by NERC Board of Trustees	
1	October 21, 2010	Order issued remanding BAL-002-WECC-1	
2	November 7, 2012	Adopted by NERC Board of Trustees	
2	November 21, 2013	FERC Order issued approving BAL-002-WECC-2. (Order becomes effective 1/28/14.)	
2a	December 1, 2015	Approved by WECC Board of Directors	Clarified resources available for use in Requirement R2
2a	November 2, 2016	Approved by NERC Board of Trustees	

Proposed Regional Reliability Standard BAL-002-WECC-2a

Redline Version

A. Introduction

1. **Title:** **Contingency Reserve**

2. **Number:** BAL-002-WECC-~~2~~2a

3. **Purpose:** To specify the quantity and types of Contingency Reserve required to ensure reliability under normal and abnormal conditions.

4. **Applicability:**

   4.1 Balancing Authority

   4.1.1. The Balancing Authority is the responsible entity unless the Balancing Authority is a member of a Reserve Sharing Group, in which case, the Reserve Sharing Group becomes the responsible entity.

   4.2 Reserve Sharing Group

   4.2.1. The Reserve Sharing Group when comprised of a Source Balancing Authority becomes the source Reserve Sharing Group.

   4.2.2. The Reserve Sharing Group when comprised of a Sink Balancing Authority becomes the sink Reserve Sharing Group.

5. **Effective Date:** ~~On the first day of the third quarter following applicable regulatory approval~~See Implementation Plan.

B. Requirements and Measures

R1. Each Balancing Authority and each Reserve Sharing Group shall maintain a minimum amount of Contingency Reserve, except within the first sixty minutes following an event requiring the activation of Contingency Reserve, that is: [*Violation Risk Factor: High] [Time Horizon: Real-time operations]*

1.1 The greater of either:

- The amount of Contingency Reserve equal to the loss of the most severe single contingency;
- The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation.

1.2 Comprised of any combination of the reserve types specified below:

- Operating Reserve – Spinning
- Operating Reserve - Supplemental
- Interchange Transactions designated by the Source Balancing Authority as Operating Reserve – Supplemental
- Reserve held by other entities by agreement that is deliverable on Firm Transmission Service
- A resource, other than generation or load, that can provide energy or reduce energy consumption
- Load, including demand response resources, Demand-Side Management resources, Direct Control Load Management, Interruptible Load or Interruptible Demand, or any other Load made available for curtailment by the Balancing Authority or the Reserve Sharing Group via contract or agreement.
- All other load, not identified above, once the Reliability Coordinator has declared an energy emergency alert signifying that firm load interruption is imminent or in progress.

1.3 Based on real-time hourly load and generating energy values averaged over each Clock Hour (excluding Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464).

1.4 An amount of capacity from a resource that is deployable within ten minutes.

M1. Each Balancing Authority and each Reserve Sharing Group will have documentation demonstrating its Contingency Reserve was maintained, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Part 1.1

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates its Contingency Reserve was maintained in accordance with the amounts identified in Requirement R1, Part 1.1, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Attachment A is a practical illustration showing how the generation amount may be calculated under Requirement R1.

- Where Dynamic Schedules are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1 may include, but is not limited

to, documentation showing a reciprocal acknowledgement as to which entity is carrying the reserves. This transfer may be all or some portion of the physical generator and is not limited to the entire physical capability of the generator.

- Where Pseudo-Ties are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1, may include, but is not limited to, documentation accounting for the transfers included in the Pseudo-Ties.

Part 1.2

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.2. Evidence may include, but is not limited to, documentation that reserves were comprised of the types listed in Requirement R1, Part 1.2 for purposes of meeting the Contingency Reserve obligation of Requirement R1. Additionally, for purposes of the last bullet of Requirement R1, Part 1.2, evidence of compliance may include, but is not limited to, documentation that the reliability coordinator had issued an energy emergency alert, indicating that firm Load interruption was imminent or was in progress.

Part 1.3

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.3. Evidence of compliance with Requirement R1, Part 1.3 may include, but is not limited to, documentation that Contingency Reserve amounts are based upon load and generating data averaged over each Clock Hour and excludes Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464.

Part 1.4

Evidence of compliance with Requirement R1, Part 1.4 may include, but is not limited to, documentation that the reserves maintained to comply with Requirement R1, Part 1.4 are fully deployable within ten minutes.

R2. Each Balancing Authority and each Reserve Sharing Group shall maintain at least half of its minimum amount of Contingency Reserve identified in Requirement R1, as Operating Reserve – Spinning that meets both of the following reserve characteristics. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

2.1 Reserve that is immediately and automatically responsive to frequency deviations through the action of a governor or other control system;

2.2 Reserve that is capable of fully responding within ten minutes.

M2. Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates it maintained at least half of the Contingency Reserve identified in Requirement R1 as Operating Reserve – Spinning, averaged over each Clock Hour, that met both of the reserve characteristics identified in Requirement R2, Part 2.1 and Requirement R2, Part 2.2.

R3. Each Sink Balancing Authority and each sink Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, except within the first sixty minutes following an event requiring the activation of Contingency Reserve. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M3. Each Sink Balancing Authority and each sink Reserve Sharing Group will have dated documentation demonstrating it maintained an amount of Operating Reserve, in addition to the Contingency Reserve identified in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, for the entire period of the transaction, except within the first sixty minutes following an event requiring the activation of Contingency Reserves, in accordance with Requirement 3.

R4. Each Source Balancing Authority and each source Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve amounts identified in Requirement R1, equal to the amount and type of Operating Reserves for any Operating Reserve transactions for which it is the Source Balancing Authority or source Reserve Sharing Group. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M4. Each Source Balancing Authority and each source Reserve Sharing Group will have dated documentation that demonstrates it maintained an amount of additional Operating Reserves identified in Requirement R1, greater than or equal to the amount and type of that identified in Requirement 4, for the entire period of the transaction.

C. Compliance

1. Compliance Monitoring Process

1.1 Compliance Enforcement Authority

For entities that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.

For Reliability Coordinators and other functional entities that work for their Regional Entity, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

For responsible entities that are also Regional Entities, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

1.2 Compliance Monitoring and Assessment Processes:

Compliance Audit

Self-Certification

Spot Checking

Compliance Investigation

Self-Reporting

Complaint

1.3 Evidence Retention

The following evidence retention periods identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each Balancing Authority and each Reserve Sharing Group shall keep evidence for Requirement R1 through R4 for three years plus calendar current.

1.4. Additional Compliance Information

1.4.1. This Standard shall apply to each Balancing Authority and each Reserve Sharing Group that has registered with WECC as provided in Part 1.4.2 of Section C.

Each Balancing Authority identified in the registration with WECC as provided in Part 1.4.2 of Section C shall be responsible for compliance with this Standard through its participation in the Reserve Sharing Group and not on an individual basis.

1.4.2. A Reserve Sharing Group may register as the Responsible Entity for purposes of compliance with this Standard by providing written notice to the WECC: 1) indicating that the Reserve Sharing Group is registering as the Responsible Entity for purposes of compliance with this Standard, 2) identifying each Balancing Authority that is a member of the Reserve Sharing Group, and 3) identifying the person or organization that will serve as agent on behalf of the Reserve Sharing Group for purposes of communications and data submissions related to or required by this Standard.

1.4.3. If an agent properly designated in accordance with Part 1.4.2 of Section C identifies individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission, together with the percentage of responsibility attributable to each identified Balancing Authority, then, except as may otherwise be finally determined through a duly conducted review or appeal of the initial finding of noncompliance: 1) any penalties assessed for noncompliance by the Reserve Sharing Group shall be allocated to the individual Balancing Authorities identified in the applicable data submission in proportion to their respective percentages of responsibility as specified in the data submission, 2) each Balancing Authority shall be solely responsible for all penalties allocated to it according to its percentage of responsibility as provided in subsection 1) of this Part 1.4.3 of Section C, and 3) neither the Reserve Sharing Group nor any member of the Reserve Sharing Group shall be responsible for any portion of a penalty assessed against another member of the Reserve Sharing Group in accordance with subsection 1) of this Part 1.4.3 of Section C (even if the member of Reserve Sharing Group against which the penalty is assessed is not subject to or otherwise fails to pay its allocated share of the penalty).

1.4.4. If an agent properly designated in accordance with Part 1.4.2 of Section C fails to identify individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission or fails to specify percentages of responsibility attributable to each identified Balancing Authority, any penalties for noncompliance shall be assessed against the agent on behalf of the Reserve Sharing Group, and it shall be the responsibility of the members of the Reserve Sharing Group to allocate responsibility for such noncompliance.

1.4.5. Any Balancing Authority that is a member of a Reserve Sharing Group that has failed to register as provided in Part 1.4.2 of Section C shall be subject to this Standard on an individual basis.

Table of Compliance Elements

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.
R2	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 100% but greater than or equal to 90% of the required	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 90% but greater than or equal to 80% of	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 80% but greater than or equal to 70% of	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 70% of the required Operating

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.
R3	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R3.
R4	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R4.

D. Regional Variances
None.

E. Interpretations
~~None~~

Interpretation Requested

Arizona Public Service (APS) sought clarification that for purposes of BAL-002-WECC-2, Requirement R2, APS and other Balancing Authorities and/or Reserve Sharing Groups can include "technologies, such as batteries, both contemplated and not yet contemplated…as potential resources [to meet the Operating Reserve – Spinning requirement of BAL-002-WECC-2, Requirement R2] – so long as the…resource can meet the response characteristics described in the standard."

A standards interpretation team comprised of members of the original BAL drafting team concluded that APS' understanding was correct.

"[N]on-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" so long as they meet the technical and performance requirements in Requirement R2 (i.e., that the resources must be immediately and automatically responsive to frequency deviations through the action of a control system and capable of fully responding within ten minutes).[1]

[1] FERC Order 789, P47. July 18, 2013.

See also FERC Order 740, Section E, Demand-Side Management as a Resource, at P 50:

In Order 789, Paragraph 48, the Federal Energy Regulatory Commission (Commission) responded to the California Independent System Operator that:

> **Commission Determination**
>
> 48. The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language delineates how that technology must [] respond."[2] We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption."

"The Commission clarified that the purpose of this directive was to ensure comparable treatment of demand-side management with conventional generation or any other technology and to allow demand-side management to be considered as a resource for contingency reserves on this basis without requiring the use of any particular contingency reserve option."

[2] "Fn 44 Petition, Exhibit C at 20."

F. Associated Documents

None.

Attachment A

Attachment A is illustrative only; it is not a requirement. Requirement R1 calls for an amount of Contingency Reserve to be maintained, predicated on an amount of generation and load required in Requirement R1, Part 1.1., specifically:

> **"1.1** The greater of either:
>
> - The amount of Contingency Reserve equal to the loss of the most severe single contingency;
> - The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation."

Attachment A illustrates one possible way to account for and calculate the amount of generation upon which the Contingency Reserve amount is predicated.

Below is a practical illustration showing how the generation amount may be calculated under Requirement R1 for Balancing Authorities (BA) and Reserve Sharing Groups (RSG).

BA1 / RSG 1	**Generation**	**Part of Generator**
Generator 1	300 MWs online	Yes
Generator 2	200 MWs online	Yes
Generator 3 (Pseudo-Tied out to BA2)	100 MWs online	No
Generator 4 QF (has backup contract)	10 MWs online	No
Generator 5 QF in EMS	10 MWs online	Yes
Generator 6	0 MWs online	Yes

Dynamic Schedule to BA2 from BA1[3]	(50 MWs)	
Generation	620 MWs	(The sum of gen 1-6)
BA generation (EMS)	510 MWs	(The sum of gen 1, 2, and 5)
Generation to use Under BAL-002-WECC-1	460 MWs**	(The sum of gen 1, 2 and 5 minus Dynamic Schedule)

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would maintain reserves based on 510 MWs Generation.

BA2 / RSG2	**Generation**	**Part of Generator**

[3] Note: This Dynamic Schedule is not the same as the Generator 3 Pseudo-Tie.

Generator 11	100 MWs		Yes
Generator 12	100 MWs		Yes
Generator 3 (Pseudo-Tied in from BA1)	100 MWs		Yes
Dynamic Schedule from BA1 to BA2	50 MWs		Yes
Generation	300 MWs	(The sum of gen 11, 12 and 3.)	
BA generation (EMS)	300 MWs	(The sum of gen 11, 12 and 3)	
Generation to use Under BAL-002-WECC-1	350 MWs**	(The sum of gen 11, 12 and 3 plus Dynamic Schedule)	

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would have to maintain reserves based on 510MWs Generation and BA2 would determine its generation to be 300 MWs.

Guideline and Technical Basis

A Guidance Document addressing implementation of this standard has been filed with this standard.

Version History

Version	Date	Action	Change Tracking
1	October 29, 2008	Adopted by NERC Board of Trustees	
1	October 21, 2010	Order issued remanding BAL-002-WECC-1	
2	November 7, 2012	Adopted by NERC Board of Trustees	
2	November 21, 2013	FERC Order issued approving BAL-002-WECC-2. (Order becomes effective 1/28/14.)	
2a	December 1, 2015	Approved by WECC Board of Directors	Clarified resources available for use in Requirement R2
2a	November 2, 2016	Approved by NERC Board of Trustees	

Exhibit B

Implementation Plan

Standards Authorization Request

WECC-0114 BAL-002-WECC-2a Standard Authorization Request

Approvals Required

- WECC Board of Directors June 16, 2016
- NERC Board of Trustees November 2, 2016
- FERC Pending

Prerequisite Approvals

The project was balloted at WECC from July 23 through August 27, 2015. The WECC Ballot Pool approved the interpretation with a 100% affirmative vote, zero no votes, and three abstentions.

Results of that ballot are included elsewhere in this filing.

On October 29, 2015, the WECC Standards Committee (WSC) approved forwarding the interpretation to the WECC Board of Directors with a request for approval. Subsequent to this decision WECC received a WECC Standards Authorization Request (SAR) to retire Requirement R2 of BAL-002-WECC-2. Due to the nature of this SAR the WSC agreed to hold the request for WECC Board of Directors (Board) approval pending the outcome of the SAR to retire the requirement. The drafting team for the retirement of Requirement 2 project concluded that a field test of at least a year in length should be conducted prior to retirement of the Requirement. Due to the length of the field test the WSC concluded that the interpretation should move forward.

On June 16, 2016, the WECC Board approved the interpretation during the WECC June Board meeting.

Applicable Entities

- Balancing Authority
- Reserve Sharing Group

Conforming Changes to Other Standards

There are no conforming changes to other standards required to immediately implement the interpretation.

Effective Date

The Effective Date is proposed to be immediately upon receipt of regulatory approval.

Justification of Effective Date

On July 18, 2013, FERC issued Order 789 wherein it addressed the use of non-traditional resources for purposes of Operating Reserve – Spinning. This interpretation is in alignment with that earlier Order and should cause no undue surprise for the industry.

Consideration of Early Compliance

See above.

Retirements

There are no retirements required to immediately implement the interpretation.

Exhibit C

Order No. 672 Criteria

Order 672 Criteria WECC-0114
BAL-002-WECC-2a Contingency Reserves
Request for Interpretation

The proposed Interpretation of Requirement R2, BAL-002-WECC-2, Contingency Reserve, a Regional Reliability Standard (RRS), does not change or modify the standard in any way. It only interprets Requirement R2 of the document. Each of the following standardized questions was asked and answered when the original underlying RRS was filed and approved. As such, a brief response indicating no changes were made to the FERC-approved RRS has been provided to many of the standardized questions that follow.

NERC is responsible for ensuring that the Reliability Standards, Violation Risk Factors (VRF), Violation Severity Levels (VSL), definitions, Variances, and Interpretations developed by drafting teams are developed in accordance with NERC processes. They must also meet NERC's benchmarks for Reliability Standards, as well as criteria for governmental approval.

In FERC Order No. 672,[1] the Federal Energy Regulatory Commission (FERC) identified a number of criteria that it will use to analyze reliability standards proposed for approval to ensure they are just, reasonable, not unduly discriminatory or preferential, and in the public interest. The discussion below identifies these factors, and explains how the proposed regional reliability standard has met or exceeded the criteria:

1. **Proposed reliability standards must be designed to achieve a specified reliability goal.**

   The proposed Reliability Standard must address a reliability concern that falls within the requirements of section 215 of the Federal Power Act. That is, it must provide for the reliable operation of Bulk-Power System facilities. It may not extend beyond reliable operation of such facilities or apply to other facilities. Such facilities include all those necessary for operating an interconnected electric energy transmission network, or any portion of that network, including control systems. The proposed Reliability Standard may apply to any design of planned additions or modifications of such facilities that is necessary to provide for reliable operation. It may also apply to Cybersecurity protection. Order No. 672 at P 321.

   The proposed interpretation does not change the purpose of the FERC-approved RRS.

2. **Proposed reliability standards must contain a technically sound method to achieve the goal.**

   The proposed Reliability Standard must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve this goal. Although any person may propose a topic

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[1] http://www.nerc.com/files/final_rule_reliability_Order_672.pdf

for a Reliability Standard to the ERO, in the ERO's process, the specific proposed Reliability Standard should be developed initially by persons within the electric power industry and community with a high level of technical expertise and be based on sound technical and engineering criteria. It should be based on actual data and lessons learned from past operating incidents, where appropriate. The process for ERO approval of a proposed Reliability Standard should be fair and open to all interested persons. Order No. 672 at P 324.

No Change to the Standard

Pursuant to the WECC Reliability Standards Development Procedures (Procedures), a request for interpretation of a document is limited to clarifying existing requirements in the approved document and may not expand upon a requirement or provide guidance on how to implement a requirement. This interpretation does not change any of the reliability-related substance of the FERC-approved RRS.

Standard Development

This filing of BAL-002-WECC-2a was developed using the NERC and WECC Standards development processes approved by FERC in effect at each point in the process. Among other things, these processes include drafting of the interpretation by a drafting team composed of subject matter experts (SMEs) from the original drafting team; biographies of those SMEs are provided with this filing. These processes also include repeated public iterative comment/response cycles whereby comments are received from the industry and responses to those comments are provided by the drafting team.

Foundation for the Interpretation

The Interpretation is based on FERC Order 789. In Order 789, Paragraph 48, the Federal Energy Regulatory Commission (Commission) responded to the California Independent System Operator that:

Commission Determination

"48. The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language

delineates how that technology must [] respond."[2] We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption."

3. **Proposed reliability standards must be applicable to users, owners, and operators of the bulk power system, and not others.**

   The proposed Reliability Standard may impose a requirement on any user, owner, or operator of such facilities, but not on others. Order No. 672 at P 322.

   The proposed interpretation does not change the applicability of the FERC-approved RRS. BAL-002-WECC-2a complies with Order 672 in that it applies only to Balancing Authorities and Reserve Sharing Groups in the Western Interconnection.

4. **Proposed reliability standards must be clear and unambiguous as to what is required and who is required to comply.**

   The proposed Reliability Standard should be clear and unambiguous regarding what is required and who is required to comply. Users, owners, and operators of the Bulk-Power System must know what they are required to do to maintain reliability. Order No. 672 at P 325.

   The proposed interpretation does not change the requirements of the standard or the applicability. It was posted for separate 45-day comment periods at WECC and NERC. There were no negative concerns, no minority positions, and no requests for changes in either posting. When balloted, the Ballot Pool approved the project with a 100 percent weighted sector approval, with zero negative votes and three abstentions.

5. **Proposed reliability standards must include clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation.**

   The proposed interpretation does not change or impact any of the FERC-approved VRFs or VSLs.

6. **Proposed reliability standards must identify clear and objective criterion or measure for compliance, so that it can be enforced in a consistent and non-preferential manner.**

   There should be a clear criterion or measure of whether an entity is in compliance with a proposed Reliability Standard. It should contain or be accompanied by an objective measure of compliance so that it can be enforced and so that enforcement can be applied in a consistent and non-preferential manner. Order No. 672 at P 327.

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[2] "Fn 44 Petition, Exhibit C at 20."

The proposed interpretation does not change any of the Measures in the FERC-approved RRS.

7. **Proposed reliability standards should achieve a reliability goal effectively and efficiently - but does not necessarily have to reflect "best practices" without regard to implementation cost.**

   The proposed Reliability Standard does not necessarily have to reflect the optimal method, or "best practice," for achieving its reliability goal without regard to implementation cost or historical regional infrastructure design. It should however achieve its reliability goal effectively and efficiently. Order No. 672 at P 328.

   The proposed interpretation does not change any of the reliability-related substance of the underlying FERC-approved RRS.

8. **Proposed reliability standards cannot be "lowest common denominator," i.e., cannot reflect a compromise that does not adequately protect bulk power system reliability.**

   The proposed Reliability Standard must not simply reflect a compromise in the ERO's Reliability Standard development process based on the least effective North American practice — the so-called "lowest common denominator" — if such practice does not adequately protect Bulk-Power System reliability. Although the Commission will give due weight to the technical expertise of the ERO, we will not hesitate to remand a proposed Reliability Standard if we are convinced it is not adequate to protect reliability. Order No. 672 at P 329.

   The proposed interpretation does not change any of the reliability-related substance of the underlying FERC-approved RRS.

9. **Proposed reliability standards may consider costs to implement for smaller entities but not at consequence of less than excellence in operating system reliability.**

   A proposed Reliability Standard may take into account the size of the entity that must comply with the Reliability Standard and the cost to those entities of implementing the proposed Reliability Standard. However, the ERO should not propose a "lowest common denominator" Reliability Standard that would achieve less than excellence in operating system reliability solely to protect against reasonable expenses for supporting this vital national infrastructure. For example, a small owner or operator of the Bulk-Power System must bear the cost of complying with each Reliability Standard that applies to it. Order No. 672 at P 330.

   The proposed interpretation does not change any of the reliability-related substance of the underlying FERC-approved RRS.

10. **Proposed reliability standards must be designed to apply throughout North America to the maximum extent achievable with a single reliability standard while not favoring one area or approach.**

A proposed Reliability Standard should be designed to apply throughout the interconnected North American Bulk-Power System to the maximum extent this is achievable with a single Reliability Standard. The proposed Reliability Standard should not be based on a single geographic or regional model but should take into account geographic variations in grid characteristics, terrain, weather, and other such factors; it should also take into account regional variations in the organizational and corporate structures of transmission owners and operators, variations in generation fuel type and ownership patterns, and regional variations in market design if these affect the proposed Reliability Standard. Order No. 672 at P 331.

The proposed interpretation does not alter or otherwise change the applicable entities operating within the Western Interconnection that are identified in the FERC-approved RRS.

11. Proposed reliability standards should cause no undue negative effect on competition or restriction of the grid.

As directed by section 215 of the FPA, the Commission itself will give special attention to the effect of a proposed Reliability Standard on competition. The ERO should attempt to develop a proposed Reliability Standard that has no undue negative effect on competition. Among other possible considerations, a proposed Reliability Standard should not unreasonably restrict available transmission capability on the Bulk-Power System beyond any restriction necessary for reliability and should not limit use of the Bulk-Power System in an unduly preferential manner. It should not create an undue advantage for one competitor over another. Order No. 672 at P 332

The proposed interpretation is not anticipated to have any negative impact on competition. Rather, due to the clarification provided additional markets may be availed to fulfil the associated reserve requirements.

12. The implementation time for the proposed reliability standards must be reasonable.

In considering whether a proposed Reliability Standard is just and reasonable, the Commission will consider also the timetable for implementation of the new requirements, including how the proposal balances any urgency in the need to implement it against the reasonableness of the time allowed for those who must comply to develop the necessary procedures, software, facilities, staffing or other relevant capability. Order No. 672 at P 333

The requested implementation time of immediately upon regulatory approval is reasonable. In light of the earlier July 18, 2013 FERC Order 789, entities may already be implementing the practices clarified in the interpretation.

13. The reliability standard development process must be open and fair.

Further, in considering whether a proposed Reliability Standard meets the legal standard of review, we will entertain comments about whether the ERO implemented its Commission-approved Reliability Standard development process for the development of the particular proposed

Reliability Standard in a proper manner, especially whether the process was open and fair. However, we caution that we will not be sympathetic to arguments by interested parties that choose, for whatever reason, not to participate in the ERO's Reliability Standard development process if it is conducted in good faith in accordance with the procedures approved by the Commission. Order No. 672 at P 334

WECC followed the standard development process approved by FERC in effect at the time of each step in the process.

In accordance with the Procedures, effective March 1, 2012, all drafting team meetings are open to the public.

Two drafting team meetings were held. One meeting addressed the issue; one meeting addressed responses to comments.

Notice of the meetings was provided to NERC, posted on the WECC Web site and embedded in the minutes of each meeting. Meeting minutes are posted on the WECC Web site and accessible by the public.

All meetings were supported by a telephone conference bridge associated with an on-line internet visual capability allowing all participants to see the document(s) as they were being developed. Further, this team held an open-mic standards briefing prior to balloting affording the industry an additional opportunity to have its questions addressed.

The proposed interpretation was posted for separate 45-day comment periods at WECC and at NERC. Neither posting resulted in any requests for change.

Comments and their responses are included in this filing and posted on the WECC Web Site at the WECC-0114 Project Page on the Submitted and Review Comments accordion.

14. Proposed reliability standards must balance with other vital public interests.

Finally, we understand that at times development of a proposed Reliability Standard may require that a particular reliability goal must be balanced against other vital public interests, such as environmental, social and other goals. We expect the ERO to explain any such balancing in its application for approval of a proposed Reliability Standard. Order No. 672 at P 335

WECC is not aware of any other vital public interests. No such balancing concerns were raised or noted.

15. Proposed reliability standards must consider any other relevant factors.

In considering whether a proposed Reliability Standard is just and reasonable, we will consider the following general factors, as well as other factors that are appropriate for the particular Reliability Standard proposed. Order No. 672 at P 323

WECC is not aware of any other relevant factors and none were raised during development.

Exhibit D

Complete Record of Development

Regional Reliability Standards Under Development

Regional Reliability Standards - Under Development				
Standard No.	**Title**	**Regional Status**	**Dates**	**NERC Status**
Western Electricity Coordinating Council (WECC)				
BAL-002-WECC-2a	Contingency Reserve	Standard Interpretation Under Development	08/04/15-09/17/15	Standard w/ Interpretation Clean **(1)** | Redline to Last Approved **(2)** Info **(3)** Unofficial Comment Form (Word) **(4)** Submit Comments Comments Received **(5)**

A. Introduction

1. **Title:** **Contingency Reserve**

2. **Number:** BAL-002-WECC-2a

3. **Purpose:** To specify the quantity and types of Contingency Reserve required to ensure reliability under normal and abnormal conditions.

4. **Applicability:**

   4.1 Balancing Authority

   4.1.1. The Balancing Authority is the responsible entity unless the Balancing Authority is a member of a Reserve Sharing Group, in which case, the Reserve Sharing Group becomes the responsible entity.

   4.2 Reserve Sharing Group

   4.2.1. The Reserve Sharing Group when comprised of a Source Balancing Authority becomes the source Reserve Sharing Group.

   4.2.2. The Reserve Sharing Group when comprised of a Sink Balancing Authority becomes the sink Reserve Sharing Group.

5. **Effective Date:** On the first day of the third quarter following applicable regulatory approval.

B. Requirements and Measures

R1. Each Balancing Authority and each Reserve Sharing Group shall maintain a minimum amount of Contingency Reserve, except within the first sixty minutes following an event requiring the activation of Contingency Reserve, that is: [*Violation Risk Factor: High] [Time Horizon: Real-time operations]*

1.1 The greater of either:

- The amount of Contingency Reserve equal to the loss of the most severe single contingency;
- The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation.

1.2 Comprised of any combination of the reserve types specified below:

- Operating Reserve – Spinning
- Operating Reserve - Supplemental
- Interchange Transactions designated by the Source Balancing Authority as Operating Reserve – Supplemental
- Reserve held by other entities by agreement that is deliverable on Firm Transmission Service
- A resource, other than generation or load, that can provide energy or reduce energy consumption
- Load, including demand response resources, Demand-Side Management resources, Direct Control Load Management, Interruptible Load or Interruptible Demand, or any other Load made available for curtailment by the Balancing Authority or the Reserve Sharing Group via contract or agreement.
- All other load, not identified above, once the Reliability Coordinator has declared an energy emergency alert signifying that firm load interruption is imminent or in progress.

1.3 Based on real-time hourly load and generating energy values averaged over each Clock Hour (excluding Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464).

1.4 An amount of capacity from a resource that is deployable within ten minutes.

M1. Each Balancing Authority and each Reserve Sharing Group will have documentation demonstrating its Contingency Reserve was maintained, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Part 1.1

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates its Contingency Reserve was maintained in accordance with the amounts identified in Requirement R1, Part 1.1, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Attachment A is a practical illustration showing how the generation amount may be calculated under Requirement R1.

- Where Dynamic Schedules are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1 may include, but is not limited

to, documentation showing a reciprocal acknowledgement as to which entity is carrying the reserves. This transfer may be all or some portion of the physical generator and is not limited to the entire physical capability of the generator.

- Where Pseudo-Ties are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1, may include, but is not limited to, documentation accounting for the transfers included in the Pseudo-Ties.

Part 1.2

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.2. Evidence may include, but is not limited to, documentation that reserves were comprised of the types listed in Requirement R1, Part 1.2 for purposes of meeting the Contingency Reserve obligation of Requirement R1. Additionally, for purposes of the last bullet of Requirement R1, Part 1.2, evidence of compliance may include, but is not limited to, documentation that the reliability coordinator had issued an energy emergency alert, indicating that firm Load interruption was imminent or was in progress.

Part 1.3

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.3. Evidence of compliance with Requirement R1, Part 1.3 may include, but is not limited to, documentation that Contingency Reserve amounts are based upon load and generating data averaged over each Clock Hour and excludes Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464.

Part 1.4

Evidence of compliance with Requirement R1, Part 1.4 may include, but is not limited to, documentation that the reserves maintained to comply with Requirement R1, Part 1.4 are fully deployable within ten minutes.

R2. Each Balancing Authority and each Reserve Sharing Group shall maintain at least half of its minimum amount of Contingency Reserve identified in Requirement R1, as Operating Reserve – Spinning that meets both of the following reserve characteristics. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

2.1 Reserve that is immediately and automatically responsive to frequency deviations through the action of a governor or other control system;

2.2 Reserve that is capable of fully responding within ten minutes.

M2. Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates it maintained at least half of the Contingency Reserve identified in Requirement R1 as Operating Reserve – Spinning, averaged over each Clock Hour, that met both of the reserve characteristics identified in Requirement R2, Part 2.1 and Requirement R2, Part 2.2.

R3. Each Sink Balancing Authority and each sink Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, except within the first sixty minutes following an event requiring the activation of Contingency Reserve. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M3. Each Sink Balancing Authority and each sink Reserve Sharing Group will have dated documentation demonstrating it maintained an amount of Operating Reserve, in addition to the Contingency Reserve identified in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, for the entire period of the transaction, except within the first sixty minutes following an event requiring the activation of Contingency Reserves, in accordance with Requirement 3.

R4. Each Source Balancing Authority and each source Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve amounts identified in Requirement R1, equal to the amount and type of Operating Reserves for any Operating Reserve transactions for which it is the Source Balancing Authority or source Reserve Sharing Group. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M4. Each Source Balancing Authority and each source Reserve Sharing Group will have dated documentation that demonstrates it maintained an amount of additional Operating Reserves identified in Requirement R1, greater than or equal to the amount and type of that identified in Requirement 4, for the entire period of the transaction.

C. Compliance

1. Compliance Monitoring Process

1.1 Compliance Enforcement Authority

For entities that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.

For Reliability Coordinators and other functional entities that work for their Regional Entity, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

For responsible entities that are also Regional Entities, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

1.2 Compliance Monitoring and Assessment Processes:

Compliance Audit

Self-Certification

Spot Checking

Compliance Investigation

Self-Reporting

Complaint

1.3 Evidence Retention

The following evidence retention periods identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each Balancing Authority and each Reserve Sharing Group shall keep evidence for Requirement R1 through R4 for three years plus calendar current.

1.4. Additional Compliance Information

1.4.1. This Standard shall apply to each Balancing Authority and each Reserve Sharing Group that has registered with WECC as provided in Part 1.4.2 of Section C.

Each Balancing Authority identified in the registration with WECC as provided in Part 1.4.2 of Section C shall be responsible for compliance with this Standard through its participation in the Reserve Sharing Group and not on an individual basis.

1.4.2. A Reserve Sharing Group may register as the Responsible Entity for purposes of compliance with this Standard by providing written notice to the WECC: 1) indicating that the Reserve Sharing Group is registering as the Responsible Entity for purposes of compliance with this Standard, 2) identifying each Balancing Authority that is a member of the Reserve Sharing Group, and 3) identifying the person or organization that will serve as agent on behalf of the Reserve Sharing Group for purposes of communications and data submissions related to or required by this Standard.

1.4.3. If an agent properly designated in accordance with Part 1.4.2 of Section C identifies individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission, together with the percentage of responsibility attributable to each identified Balancing Authority, then, except as may otherwise be finally determined through a duly conducted review or appeal of the initial finding of noncompliance: 1) any penalties assessed for noncompliance by the Reserve Sharing Group shall be allocated to the individual Balancing Authorities identified in the applicable data submission in proportion to their respective percentages of responsibility as specified in the data submission, 2) each Balancing Authority shall be solely responsible for all penalties allocated to it according to its percentage of responsibility as provided in subsection 1) of this Part 1.4.3 of Section C, and 3) neither the Reserve Sharing Group nor any member of the Reserve Sharing Group shall be responsible for any portion of a penalty assessed against another member of the Reserve Sharing Group in accordance with subsection 1) of this Part 1.4.3 of Section C (even if the member of Reserve Sharing Group against which the penalty is assessed is not subject to or otherwise fails to pay its allocated share of the penalty).

1.4.4. If an agent properly designated in accordance with Part 1.4.2 of Section C fails to identify individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission or fails to specify percentages of responsibility attributable to each identified Balancing Authority, any penalties for noncompliance shall be assessed against the agent on behalf of the Reserve Sharing Group, and it shall be the responsibility of the members of the Reserve Sharing Group to allocate responsibility for such noncompliance.

1.4.5. Any Balancing Authority that is a member of a Reserve Sharing Group that has failed to register as provided in Part 1.4.2 of Section C shall be subject to this Standard on an individual basis.

Table of Compliance Elements

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.
R2	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 100% but greater than or equal to 90% of the required	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 90% but greater than or equal to 80% of	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 80% but greater than or equal to 70% of	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 70% of the required Operating

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.
R3	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R3.
R4	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R4.

D. Regional Variances
None.

E. Interpretations

Interpretation Requested

Arizona Public Service (APS) sought clarification that for purposes of BAL-002-WECC-2, Requirement R2, APS and other Balancing Authorities and/or Reserve Sharing Groups can include "technologies, such as batteries, both contemplated and not yet contemplated…as potential resources [to meet the Operating Reserve – Spinning requirement of BAL-002-WECC-2, Requirement R2] – so long as the…resource can meet the response characteristics described in the standard."

A standards interpretation team comprised of members of the original BAL drafting team concluded that APS' understanding was correct.

"[N]on-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" so long as they meet the technical and performance requirements in Requirement R2 (i.e., that the resources must be immediately and automatically responsive to frequency deviations through the action of a control system and capable of fully responding within ten minutes).[1]

[1] FERC Order 789, P47. July 18, 2013.

See also FERC Order 740, Section E, Demand-Side Management as a Resource, at P 50:
"The Commission clarified that the purpose of this directive was to ensure comparable treatment of demand-side management with conventional generation or any other technology and to allow demand-side management to be considered as a resource for contingency reserves on this basis without requiring the use of any particular contingency reserve option."

In Order 789, Paragraph 48, the Federal Energy Regulatory Commission (Commission) responded to the California Independent System Operator that:

> **Commission Determination**
>
> 48. The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language delineates how that technology must [] respond."[2] We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption."

[2] "Fn 44 Petition, Exhibit C at 20."

F. Associated Documents

None.

Attachment A

Attachment A is illustrative only; it is not a requirement. Requirement R1 calls for an amount of Contingency Reserve to be maintained, predicated on an amount of generation and load required in Requirement R1, Part 1.1., specifically:

> **"1.1** The greater of either:
>
> - The amount of Contingency Reserve equal to the loss of the most severe single contingency;
> - The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation."

Attachment A illustrates one possible way to account for and calculate the amount of generation upon which the Contingency Reserve amount is predicated.

Below is a practical illustration showing how the generation amount may be calculated under Requirement R1 for Balancing Authorities (BA) and Reserve Sharing Groups (RSG).

BA1 / RSG 1	**Generation**	**Part of Generator**
Generator 1	300 MWs online	Yes
Generator 2	200 MWs online	Yes
Generator 3 (Pseudo-Tied out to BA2)	100 MWs online	No
Generator 4 QF (has backup contract)	10 MWs online	No
Generator 5 QF in EMS	10 MWs online	Yes
Generator 6	0 MWs online	Yes

Dynamic Schedule to BA2 from BA1[3]	(50 MWs)	
Generation	620 MWs	(The sum of gen 1-6)
BA generation (EMS)	510 MWs	(The sum of gen 1, 2, and 5)
Generation to use Under BAL-002-WECC-1	460 MWs**	(The sum of gen 1, 2 and 5 minus Dynamic Schedule)

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would maintain reserves based on 510 MWs Generation.

BA2 / RSG2	**Generation**	**Part of Generator**
Generator 11	100 MWs	Yes

[3] Note: This Dynamic Schedule is not the same as the Generator 3 Pseudo-Tie.

Generator 12	100 MWs		Yes
Generator 3 (Pseudo-Tied in from BA1)	100 MWs		Yes
Dynamic Schedule from BA1 to BA2	50 MWs		Yes
Generation	300 MWs	(The sum of gen 11, 12 and 3.)	
BA generation (EMS)	300 MWs	(The sum of gen 11, 12 and 3)	
Generation to use Under BAL-002-WECC-1	350 MWs**	(The sum of gen 11, 12 and 3 plus Dynamic Schedule)	

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would have to maintain reserves based on 510MWs Generation and BA2 would determine its generation to be 300 MWs.

Guideline and Technical Basis

A Guidance Document addressing implementation of this standard has been filed with this standard.

Version History

Version	Date	Action	Change Tracking
1	October 29, 2008	Adopted by NERC Board of Trustees	
1	October 21, 2010	Order issued remanding BAL-002-WECC-1	
2	November 7, 2012	Adopted by NERC Board of Trustees	
2	November 21, 2013	FERC Order issued approving BAL-002-WECC-2. (Order becomes effective 1/28/14.)	

WECC Standard BAL-002-WECC-2a — Contingency Reserve

A. Introduction

1. **Title:** **Contingency Reserve**

2. **Number:** BAL-002-WECC-2a

3. **Purpose:** To specify the quantity and types of Contingency Reserve required to ensure reliability under normal and abnormal conditions.

4. **Applicability:**

   4.1 Balancing Authority

   4.1.1. The Balancing Authority is the responsible entity unless the Balancing Authority is a member of a Reserve Sharing Group, in which case, the Reserve Sharing Group becomes the responsible entity.

   4.2 Reserve Sharing Group

   4.2.1. The Reserve Sharing Group when comprised of a Source Balancing Authority becomes the source Reserve Sharing Group.

   4.2.2. The Reserve Sharing Group when comprised of a Sink Balancing Authority becomes the sink Reserve Sharing Group.

5. **Effective Date:** ~~October 1, 2014~~ On the first day of the third quarter following applicable regulatory approval.

B. Requirements and Measures

R1. Each Balancing Authority and each Reserve Sharing Group shall maintain a minimum amount of Contingency Reserve, except within the first sixty minutes following an event requiring the activation of Contingency Reserve, that is: [*Violation Risk Factor: High] [Time Horizon: Real-time operations]*

1.1 The greater of either:

- The amount of Contingency Reserve equal to the loss of the most severe single contingency;
- The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation.

1.2 Comprised of any combination of the reserve types specified below:

- Operating Reserve – Spinning
- Operating Reserve - Supplemental
- Interchange Transactions designated by the Source Balancing Authority as Operating Reserve – Supplemental
- Reserve held by other entities by agreement that is deliverable on Firm Transmission Service
- A resource, other than generation or load, that can provide energy or reduce energy consumption
- Load, including demand response resources, Demand-Side Management resources, Direct Control Load Management, Interruptible Load or Interruptible Demand, or any other Load made available for curtailment by the Balancing Authority or the Reserve Sharing Group via contract or agreement.
- All other load, not identified above, once the Reliability Coordinator has declared an energy emergency alert signifying that firm load interruption is imminent or in progress.

1.3 Based on real-time hourly load and generating energy values averaged over each Clock Hour (excluding Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464).

1.4 An amount of capacity from a resource that is deployable within ten minutes.

M1. Each Balancing Authority and each Reserve Sharing Group will have documentation demonstrating its Contingency Reserve was maintained, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Part 1.1

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates its Contingency Reserve was maintained in accordance with the amounts identified in Requirement R1, Part 1.1, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Attachment A is a practical illustration showing how the generation amount may be calculated under Requirement R1.

- Where Dynamic Schedules are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1 may include, but is not limited

to, documentation showing a reciprocal acknowledgement as to which entity is carrying the reserves. This transfer may be all or some portion of the physical generator and is not limited to the entire physical capability of the generator.

- Where Pseudo-Ties are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1, may include, but is not limited to, documentation accounting for the transfers included in the Pseudo-Ties.

Part 1.2

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.2. Evidence may include, but is not limited to, documentation that reserves were comprised of the types listed in Requirement R1, Part 1.2 for purposes of meeting the Contingency Reserve obligation of Requirement R1. Additionally, for purposes of the last bullet of Requirement R1, Part 1.2, evidence of compliance may include, but is not limited to, documentation that the reliability coordinator had issued an energy emergency alert, indicating that firm Load interruption was imminent or was in progress.

Part 1.3

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.3. Evidence of compliance with Requirement R1, Part 1.3 may include, but is not limited to, documentation that Contingency Reserve amounts are based upon load and generating data averaged over each Clock Hour and excludes Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464.

Part 1.4

Evidence of compliance with Requirement R1, Part 1.4 may include, but is not limited to, documentation that the reserves maintained to comply with Requirement R1, Part 1.4 are fully deployable within ten minutes.

R2. Each Balancing Authority and each Reserve Sharing Group shall maintain at least half of its minimum amount of Contingency Reserve identified in Requirement R1, as Operating Reserve – Spinning that meets both of the following reserve characteristics. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

2.1 Reserve that is immediately and automatically responsive to frequency deviations through the action of a governor or other control system;

2.2 Reserve that is capable of fully responding within ten minutes.

M2. Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates it maintained at least half of the Contingency Reserve identified in Requirement R1 as Operating Reserve – Spinning, averaged over each Clock Hour, that met both of the reserve characteristics identified in Requirement R2, Part 2.1 and Requirement R2, Part 2.2.

R3. Each Sink Balancing Authority and each sink Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, except within the first sixty minutes following an event requiring the activation of Contingency Reserve. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M3. Each Sink Balancing Authority and each sink Reserve Sharing Group will have dated documentation demonstrating it maintained an amount of Operating Reserve, in addition to the Contingency Reserve identified in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, for the entire period of the transaction, except within the first sixty minutes following an event requiring the activation of Contingency Reserves, in accordance with Requirement 3.

R4. Each Source Balancing Authority and each source Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve amounts identified in Requirement R1, equal to the amount and type of Operating Reserves for any Operating Reserve transactions for which it is the Source Balancing Authority or source Reserve Sharing Group. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M4. Each Source Balancing Authority and each source Reserve Sharing Group will have dated documentation that demonstrates it maintained an amount of additional Operating Reserves identified in Requirement R1, greater than or equal to the amount and type of that identified in Requirement 4, for the entire period of the transaction.

C. Compliance

1. Compliance Monitoring Process

1.1 Compliance Enforcement Authority

For entities that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.

For Reliability Coordinators and other functional entities that work for their Regional Entity, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

For responsible entities that are also Regional Entities, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

1.2 Compliance Monitoring and Assessment Processes:

Compliance Audit

Self-Certification

Spot Checking

Compliance Investigation

Self-Reporting

Complaint

1.3 Evidence Retention

The following evidence retention periods identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each Balancing Authority and each Reserve Sharing Group shall keep evidence for Requirement R1 through R4 for three years plus calendar current.

1.4. Additional Compliance Information

1.4.1. This Standard shall apply to each Balancing Authority and each Reserve Sharing Group that has registered with WECC as provided in Part 1.4.2 of Section C.

Each Balancing Authority identified in the registration with WECC as provided in Part 1.4.2 of Section C shall be responsible for compliance with this Standard through its participation in the Reserve Sharing Group and not on an individual basis.

1.4.2. A Reserve Sharing Group may register as the Responsible Entity for purposes of compliance with this Standard by providing written notice to the WECC: 1) indicating that the Reserve Sharing Group is registering as the Responsible Entity for purposes of compliance with this Standard, 2) identifying each Balancing Authority that is a member of the Reserve Sharing Group, and 3) identifying the person or organization that will serve as agent on behalf of the Reserve Sharing Group for purposes of communications and data submissions related to or required by this Standard.

1.4.3. If an agent properly designated in accordance with Part 1.4.2 of Section C identifies individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission, together with the percentage of responsibility attributable to each identified Balancing Authority, then, except as may otherwise be finally determined through a duly conducted review or appeal of the initial finding of noncompliance: 1) any penalties assessed for noncompliance by the Reserve Sharing Group shall be allocated to the individual Balancing Authorities identified in the applicable data submission in proportion to their respective percentages of responsibility as specified in the data submission, 2) each Balancing Authority shall be solely responsible for all penalties allocated to it according to its percentage of responsibility as provided in subsection 1) of this Part 1.4.3 of Section C, and 3) neither the Reserve Sharing Group nor any member of the Reserve Sharing Group shall be responsible for any portion of a penalty assessed against another member of the Reserve Sharing Group in accordance with subsection 1) of this Part 1.4.3 of Section C (even if the member of Reserve Sharing Group against which the penalty is assessed is not subject to or otherwise fails to pay its allocated share of the penalty).

1.4.4. If an agent properly designated in accordance with Part 1.4.2 of Section C fails to identify individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission or fails to specify percentages of responsibility attributable to each identified Balancing Authority, any penalties for noncompliance shall be assessed against the agent on behalf of the Reserve Sharing Group, and it shall be the responsibility of the members of the Reserve Sharing Group to allocate responsibility for such noncompliance.

1.4.5. Any Balancing Authority that is a member of a Reserve Sharing Group that has failed to register as provided in Part 1.4.2 of Section C shall be subject to this Standard on an individual basis.

Table of Compliance Elements

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.
R2	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 100% but greater than or equal to 90% of the required	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 90% but greater than or equal to 80% of	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 80% but greater than or equal to 70% of	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 70% of the required Operating

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.
R3	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R3.
R4	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R4.

D. Regional Variances
None.

E. Interpretations

Interpretation Requested

Deleted: ¶
None.¶
¶

Arizona Public Service (APS) sought clarification that for purposes of BAL-002-WECC-2, Requirement R2, APS and other Balancing Authorities and/or Reserve Sharing Groups can include "technologies, such as batteries, both contemplated and not yet contemplated…as potential resources [to meet the Operating Reserve – Spinning requirement of BAL-002-WECC-2, Requirement R2] – so long as the…resource can meet the response characteristics described in the standard."

A standards interpretation team comprised of members of the original BAL drafting team concluded that APS' understanding was correct.

"[N]on-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" so long as they meet the technical and performance requirements in Requirement R2 (i.e., that the resources must be immediately and automatically responsive to frequency deviations through the action of a control system and capable of fully responding within ten minutes).[1]

[1] FERC Order 789, P47. July 18, 2013.

See also FERC Order 740, Section E, Demand-Side Management as a Resource, at P 50:
"The Commission clarified that the purpose of this directive was to ensure comparable treatment of demand-side management with conventional generation or any other technology and to allow demand-side management to be considered as a resource for contingency reserves on this basis without requiring the use of any particular contingency reserve option."

In Order 789, Paragraph 48, the Federal Energy Regulatory Commission (Commission) responded to the California Independent System Operator that:

> **Commission Determination**
>
> 48. The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language delineates how that technology must [] respond."[2] We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption."

[2] "Fn 44 Petition, Exhibit C at 20."

F. Associated Documents
None.

Attachment A

Attachment A is illustrative only; it is not a requirement. Requirement R1 calls for an amount of Contingency Reserve to be maintained, predicated on an amount of generation and load required in Requirement R1, Part 1.1., specifically:

> **"1.1** The greater of either:
>
> - The amount of Contingency Reserve equal to the loss of the most severe single contingency;
> - The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation."

Attachment A illustrates one possible way to account for and calculate the amount of generation upon which the Contingency Reserve amount is predicated.

Below is a practical illustration showing how the generation amount may be calculated under Requirement R1 for Balancing Authorities (BA) and Reserve Sharing Groups (RSG).

BA1 / RSG 1	**Generation**	**Part of Generator**
Generator 1	300 MWs online	Yes
Generator 2	200 MWs online	Yes
Generator 3 (Pseudo-Tied out to BA2)	100 MWs online	No
Generator 4 QF (has backup contract)	10 MWs online	No
Generator 5 QF in EMS	10 MWs online	Yes
Generator 6	0 MWs online	Yes
Dynamic Schedule to BA2 from BA1[3]	(50 MWs)	
Generation	620 MWs	(The sum of gen 1-6)
BA generation (EMS)	510 MWs	(The sum of gen 1, 2, and 5)
Generation to use Under BAL-002-WECC-1	460 MWs**	(The sum of gen 1, 2 and 5 minus Dynamic Schedule)

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would maintain reserves based on 510 MWs Generation.

BA2 / RSG2	**Generation**	**Part of Generator**
Generator 11	100 MWs	Yes

[3] Note: This Dynamic Schedule is not the same as the Generator 3 Pseudo-Tie.

Generator 12	100 MWs		Yes
Generator 3 (Pseudo-Tied in from BA1)	100 MWs		Yes
Dynamic Schedule from BA1 to BA2	50 MWs		Yes
Generation	300 MWs	(The sum of gen 11, 12 and 3.)	
BA generation (EMS)	300 MWs	(The sum of gen 11, 12 and 3)	
Generation to use Under BAL-002-WECC-1	350 MWs**	(The sum of gen 11, 12 and 3 plus Dynamic Schedule)	

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would have to maintain reserves based on 510MWs Generation and BA2 would determine its generation to be 300 MWs.

Guideline and Technical Basis

A Guidance Document addressing implementation of this standard has been filed with this standard.

Version History

Version	Date	Action	Change Tracking
1	October 29, 2008	Adopted by NERC Board of Trustees	
1	October 21, 2010	Order issued remanding BAL-002-WECC-1	
2	November 7, 2012	Adopted by NERC Board of Trustees	
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NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Regional Reliability Standards Announcement

BAL-002-WECC-2a

Comment Period Open through September 17, 2015

Now Available

Proposed Standard Interpretation for the Western Electricity Coordinating Council (WECC)

WECC has requested NERC to post the regional reliability standard interpretation, **BAL-002-WECC-2a – Contingency Reserve**, for a 45-day comment period.

Commenting

Use the electronic form to submit comments. If you experience any difficulties in using the electronic form, contact Wendy Muller. The form must be completed by **8:00 p.m. Eastern, Thursday, September 17, 2015.** An unofficial Word version of the comment form is posted on the Regional Reliability Standards Under Development page**.**

Regional Reliability Standards Development Process

Section 300 of NERC's Rules of Procedures of the Electric Reliability Organization governs the regional reliability standards development process.

For more information or assistance, contact Reliability Standards Analyst, Mat Bunch (via email) or at (404) 446-9785.

3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Unofficial Comment Form

Regional Reliability Interpretation BAL-002-WECC-2a

DO NOT use this form for submitting comments. Use the electronic form to submit comments on the **Regional Reliability Interpretation for BAL-002-WECC-2a**. The electronic form must be submitted by **8 p.m. Eastern, Thursday, September 17, 2015.**

Documents and information about this project are available on the Regional Reliability Standards Under Development page. If you have questions, contact Mat Bunch or Barb Nutter.

Background Information

A regional reliability standard shall be: (1) a regional reliability standard that is more stringent than the continent-wide reliability standard, including a regional standard that addresses matters that the continent-wide reliability standard does not; or (2) a regional reliability standard that is necessitated by a physical difference in the bulk power system. Regional reliability standards shall provide for as much uniformity as possible with reliability standards across the interconnected bulk power system of the North American continent. Regional reliability standards, when approved by FERC and applicable authorities in Mexico and Canada, shall be made part of the body of NERC reliability standards and shall be enforced upon all applicable bulk power system owners, operators, and users within the applicable area, regardless of membership in the region.

The approval process for a regional reliability standard requires NERC to publicly notice and request comment on the proposed interpretation. Comments shall be permitted only on the following criteria (technical aspects of the standard are vetted through the regional standards development process):

Unfair or Closed Process — The regional reliability interpretation was not developed in a fair and open process that provided an opportunity for all interested parties to participate. Although a NERC-approved regional reliability standards development procedure shall be presumed to be fair and open, objections could be raised regarding the implementation of the procedure.

Adverse Reliability or Commercial Impact on Other Interconnections — The regional reliability interpretation would have a significant adverse impact on reliability or commerce in other interconnections.

Deficient Standard — The regional reliability interpretation fails to provide a level of reliability of the bulk power system such that the regional reliability standard would be likely to cause a serious and substantial threat to public health, safety, welfare, or national security.

Adverse Impact on Competitive Markets within the Interconnection — The regional reliability interpretation would create a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability.

Questions

1. **Do you agree the proposed interpretation was developed in a fair and open process, using the associated Regional Reliability Standards Development Procedure?**

   ☐ Yes
   ☐ No
   Comments:

2. **Does the proposed interpretation pose an adverse impact to reliability or commerce in a neighboring region or interconnection?**

   ☐ Yes
   ☐ No
   Comments:

3. **Does the proposed interpretation pose a serious and substantial threat to public health, safety, welfare, or national security?**

   ☐ Yes
   ☐ No
   Comments:

4. **Does the proposed interpretation pose a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability?**

   ☐ Yes
   ☐ No
   Comments:

Individual or group. (3 Responses)
Name (1 Responses)
Organization (1 Responses)
Group Name (2 Responses)
Lead Contact (2 Responses)
Question 1 (3 Responses)
Question 1 Comments (3 Responses)
Question 2 (3 Responses)
Question 2 Comments (3 Responses)
Question 3 (3 Responses)
Question 3 Comments (3 Responses)
Question 4 (3 Responses)
Question 4 Comments (3 Responses)

Individual
Arizona Public Service Company
Arizona Public Service Company
Yes
APS fully supports and agrees with the interpretation.
No
No
No
Group
Bonneville Power Administration
Cain Braveheart
Yes
No
No
No
Group
Peak Reliabilitiy

Jared Shakespeare
Yes
Peak supports the interpretation.
No
No
No

Steven L. Rueckert
Western Electricity Coordinating Council
155 North 400 West, Suite 200
Salt Lake City, Utah 84103-1114

September 16, 2016

Subject: Notification of Completion
WECC-0114 BAL-002-WECC-2a Contingency Reserve Interpretation

To: Mat Bunch
North American Electric Reliability Corporation
3353 Peachtree Rd. NE, North Tower – Suite 600
Atlanta, GA 30326

Dear Mat,

In response to a request from Arizona Public Service Company, and in accordance with the Western Electricity Coordinating Council's (WECC) Reliability Standards Development Procedures (Procedures), the WECC-0114 Interpretation Drafting Team (IDT) has completed its interpretation of BAL-002-WECC-2a Contingency Reserve. The resulting Interpretation has been approved by the WECC Ballot Pool and the WECC Board of Directors (Board).

WECC is seeking adoption of the Interpretation by the NERC Board of Trustees with subsequent petition to the Federal Energy Regulatory Commission (FERC) for final approval.

Overview

Arizona Public Service (APS) sought clarification that for purposes of Requirement R2, APS and other Balancing Authorities and/or Reserve Sharing Groups could include technologies, such as batteries, both contemplated and not yet contemplated, as potential resources to meet the Operating Reserve – Spinning requirement. The IDT concluded it could.

Appendix A is a list of documents provided in support of this project. The actual documents will be forwarded separately. If I may be of further assistance in this filing, please feel free to contact me.

Thank you for your assistance in this matter.

Sincerely,

Steven Rueckert
Director of Standards
Western Electricity Coordinating Council

For documentation support please contact Mr. W. Shannon Black, sblack@wecc.biz, (503) 307-5782.

Regional Reliability Standard Name:	**Contingency Reserves – Interpretation**		
Regional Reliability Standard No:	**BAL-002-WECC-2a**		
	QR	**BOT**	**Gov't Auth.***
SAR – Standard Authorization Request *Attachment A*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment A Request for Intp Standard Authorization Request			
Regional Reliability Standard(s) (clean) *Attachment B*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment B Request for Intp Regional Reliability Standard – Clean			
Regional Reliability Standard(s) (redlined) *Attachment C*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment C Request for Intp Redline to Existing			
Project Roadmap *Attachment D*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment D Request for Intp Project Roadmap			
Implementation Plan *Attachment E*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment E Request for Intp Implementation Plan			
Technical Justification *Attachment F*			
File Name: Not Used			
VRF & VSL Justification *Attachment G*			
File Name: Not Used – no changes to the VRFs and VSLs			
Issue Table and Mapping Document – *Optional Attachment G1*			
File Name: Not Used			
Regional Reliability Standard Submittal Request *Attachment H*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment H Request for Intp Regional Reliability Standard Submittal Request			
Order 672 Criteria *Attachment I*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment I Request for Intp Order 672 Criteria			
Drafting Team Roster with Biographies *Attachment J*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment J Request for Intp Drafting Team Roster with Biographies			
Ballot Pool Members *Attachment K*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment K Request for Intp Ballot Pool Members			
Final Ballot Results *Attachment L*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment L Request for Intp Final Ballot Pool Results			
Guidance Document - *Optional Attachment M*			
File Name: Not Used			

Minority Issues *Attachment N*			
File Name: Not Used. There were none.			
WECC Standards Committee Roster *Attachment O*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment O Request for Intp WECC Standards Committee Roster			
FERC Issues Table *Optional Attachment P*			
File Name: Not Used.			
Additional Supporting Documentation *Attachment Q1 and Q2*			
File Name: Not Used.			
Responses to Comments – WECC *Attachment R1*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment R1 Request for Intp Response to Comments 5-4-2015 through 6-18-2015			
Responses to Comments – NERC *Attachment R2*			
File Name: WECC-0114 BAL-002-WECC-2a Attachment R2 Request for Intp Response to Comments NERC 45 Day Posting			
Petition Filing *(Federal Energy Regulatory Commission)*			
File Name:			
*Applicable governmental authorities in the United States, Canada, and Mexico			
To be provided by NERC.			
The above documents have been provided to NERC in MS Word format.			

Introduction

The SAR is used to propose a new or revised document, to retire an existing document, request interpretation of a document, or request an exemption from a requirement contained in a document. The original SAR is currently located here at the WECC-0114 Project Page on the Standards Authorization Request accordion.

Requester Information

1. Provide your contact information and your alternates contact information:
    - Your First Name: W. Shannon
    - Your Last Name: Black
    - Your Email Address: sblack@wecc.biz
    - Your Phone Number: (503) 307-5782
    - Organization Name: WECC
    - Alternate's First Name: Gary
    - Alternate's Last Name: Nolan
    - Alternate's Email Address: gary.nolan@aps.com
    - Alternate's Phone Number: (602) 250-1135

Type of Request

2. Specify the type of request: (select one)
    - Request for Interpretation

Create, Modify or Retire a Document Questions

Provide the requested information for your request to create, modify, or retire the document.

3. Requested Action: (select one)
    - Other: Interpretation
4. Document Type: (select one)
    - WECC Regional Reliability Standard

5. Issue: Specify what industry problem this request is trying to resolve.

Authority to Seek Interpretation

In accordance with the Reliability Standards Development Procedures, as approved by FERC on December 23, 2014:

"A Request for Interpretation (RI) of a document developed under these Procedures is *limited to clarifying existing requirements* in the approved document and may not expand upon a requirement or provide guidance on how to implement a requirement." (Emphasis added) Step 14 – Submit a Request for Interpretation

Requirement Number and Text Requested for Interpretation:

BAL-002-WECC-2 (BAL), Contingency Reserve, Requirement R2 states:

"R2. Each Balancing Authority and each Reserve Sharing Group shall maintain at least half of its minimum amount of Contingency Reserve identified in Requirement R1, as *Operating Reserve – Spinning* that meets both of the following reserve characteristics. (Emphasis added)

2.1 Reserve that is immediately and automatically responsive to frequency deviations through the action of a governor or other control system;

2.2 Reserve that is capable of fully responding within ten minutes."

Analysis

The definition for *Operating Reserve – Spinning* in the NERC Glossary of Terms Used in Reliability Standards is:

"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 form the system within the Disturbance Recovery Period following the contingency."

In addition to the cited NERC definition, FERC stated in FERC Order 789,

"48. The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language

delineates how that technology must [] respond." We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption."

If the NERC definition is applied without the benefit of the FERC narrative, only generation synchronized to the grid and Load removable from the grid would be allowed to qualify as Operating Reserve – Spinning. However, when illuminated by the FERC narrative, it appears that the definition is augmented by FERC's position that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard." P. 48 cited above.

Clarification needed:

APS is seeking clarification that for purposes of BAL-002-WECC-2, Requirement R2, APS and other Balancing Authorities and/or Reserve Sharing Groups can include "technologies, such as batteries, both contemplated and not yet contemplated…as potential resources [to meet the Operating Reserve – Spinning requirement of BAL-002-WECC-2, Requirement R2] – so long as the…resource can meet the response characteristics described in the standard."

6. Functions (select all that apply)
   - Balancing Authority
   - Reserve Sharing Groups
7. Affected Reliability Principles: Which of the following reliability principles is MOST affected by this request? (select one)
   - **Reliability Principle 1** — Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

Document Information

Specify the documents title, document number, and affected section regarding the request.

8. Document Title: Contingency Reserve
9. Document Number: BAL-002-WECC-2
10. Affected Requirement : Requirement R2

Reference Uploads

Please reference or upload any affected Standards, Regional Business Practices, Criterion, Policies, White Papers, Technical Reports or other relevant documents. If this request is based on a conflict of law, please include a copy of, or accessible reference to, the specific law or regulatory mandate in conflict.

11. Order 742
12. BAL-002-WECC-2, Contingency Reserve

A. Introduction

1. **Title:** **Contingency Reserve**

2. **Number:** BAL-002-WECC-2a

3. **Purpose:** To specify the quantity and types of Contingency Reserve required to ensure reliability under normal and abnormal conditions.

4. **Applicability:**

   4.1 Balancing Authority

   4.1.1. The Balancing Authority is the responsible entity unless the Balancing Authority is a member of a Reserve Sharing Group, in which case, the Reserve Sharing Group becomes the responsible entity.

   4.2 Reserve Sharing Group

   4.2.1. The Reserve Sharing Group when comprised of a Source Balancing Authority becomes the source Reserve Sharing Group.

   4.2.2. The Reserve Sharing Group when comprised of a Sink Balancing Authority becomes the sink Reserve Sharing Group.

5. **Effective Date:** See Implementation Plan.

B. Requirements and Measures

R1. Each Balancing Authority and each Reserve Sharing Group shall maintain a minimum amount of Contingency Reserve, except within the first sixty minutes following an event requiring the activation of Contingency Reserve, that is: [*Violation Risk Factor: High] [Time Horizon: Real-time operations]*

1.1 The greater of either:

- The amount of Contingency Reserve equal to the loss of the most severe single contingency;
- The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation.

1.2 Comprised of any combination of the reserve types specified below:

- Operating Reserve – Spinning

- Operating Reserve - Supplemental
- Interchange Transactions designated by the Source Balancing Authority as Operating Reserve – Supplemental
- Reserve held by other entities by agreement that is deliverable on Firm Transmission Service
- A resource, other than generation or load, that can provide energy or reduce energy consumption
- Load, including demand response resources, Demand-Side Management resources, Direct Control Load Management, Interruptible Load or Interruptible Demand, or any other Load made available for curtailment by the Balancing Authority or the Reserve Sharing Group via contract or agreement.
- All other load, not identified above, once the Reliability Coordinator has declared an energy emergency alert signifying that firm load interruption is imminent or in progress.

1.3 Based on real-time hourly load and generating energy values averaged over each Clock Hour (excluding Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464).

1.4 An amount of capacity from a resource that is deployable within ten minutes.

M1. Each Balancing Authority and each Reserve Sharing Group will have documentation demonstrating its Contingency Reserve was maintained, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Part 1.1

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates its Contingency Reserve was maintained in accordance with the amounts identified in Requirement R1, Part 1.1, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Attachment A is a practical illustration showing how the generation amount may be calculated under Requirement R1.

- Where Dynamic Schedules are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1 may include, but is not limited to, documentation showing a reciprocal acknowledgement as to which entity is carrying the reserves. This transfer may be all or some portion of

the physical generator and is not limited to the entire physical capability of the generator.

- Where Pseudo-Ties are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1, may include, but is not limited to, documentation accounting for the transfers included in the Pseudo-Ties.

Part 1.2

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.2. Evidence may include, but is not limited to, documentation that reserves were comprised of the types listed in Requirement R1, Part 1.2 for purposes of meeting the Contingency Reserve obligation of Requirement R1. Additionally, for purposes of the last bullet of Requirement R1, Part 1.2, evidence of compliance may include, but is not limited to, documentation that the reliability coordinator had issued an energy emergency alert, indicating that firm Load interruption was imminent or was in progress.

Part 1.3

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.3. Evidence of compliance with Requirement R1, Part 1.3 may include, but is not limited to, documentation that Contingency Reserve amounts are based upon load and generating data averaged over each Clock Hour and excludes Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464.

Part 1.4

Evidence of compliance with Requirement R1, Part 1.4 may include, but is not limited to, documentation that the reserves maintained to comply with Requirement R1, Part 1.4 are fully deployable within ten minutes.

R2. Each Balancing Authority and each Reserve Sharing Group shall maintain at least half of its minimum amount of Contingency Reserve identified in Requirement R1, as Operating Reserve – Spinning that meets both of the following reserve characteristics. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

2.1 Reserve that is immediately and automatically responsive to frequency deviations through the action of a governor or other control system;

2.2 Reserve that is capable of fully responding within ten minutes.

M2. Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates it maintained at least half of the Contingency Reserve identified in Requirement R1 as Operating Reserve – Spinning, averaged over each Clock Hour, that met both of the reserve characteristics identified in Requirement R2, Part 2.1 and Requirement R2, Part 2.2.

R3. Each Sink Balancing Authority and each sink Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, except within the first sixty minutes following an event requiring the activation of Contingency Reserve. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M3. Each Sink Balancing Authority and each sink Reserve Sharing Group will have dated documentation demonstrating it maintained an amount of Operating Reserve, in addition to the Contingency Reserve identified in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, for the entire period of the transaction, except within the first sixty minutes following an event requiring the activation of Contingency Reserves, in accordance with Requirement 3.

R4. Each Source Balancing Authority and each source Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve amounts identified in Requirement R1, equal to the amount and type of Operating Reserves for any Operating Reserve transactions for which it is the Source Balancing Authority or source Reserve Sharing Group. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M4. Each Source Balancing Authority and each source Reserve Sharing Group will have dated documentation that demonstrates it maintained an amount of additional Operating Reserves identified in Requirement R1, greater than or equal to the amount and type of that identified in Requirement 4, for the entire period of the transaction.

C. Compliance

1. Compliance Monitoring Process

1.1 Compliance Enforcement Authority

For entities that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.

For Reliability Coordinators and other functional entities that work for their Regional Entity, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

For responsible entities that are also Regional Entities, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

1.2 Compliance Monitoring and Assessment Processes:

Compliance Audit

Self-Certification

Spot Checking

Compliance Investigation

Self-Reporting

Complaint

1.3 Evidence Retention

The following evidence retention periods identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each Balancing Authority and each Reserve Sharing Group shall keep evidence for Requirement R1 through R4 for three years plus calendar current.

1.4. Additional Compliance Information

1.4.1. This Standard shall apply to each Balancing Authority and each Reserve Sharing Group that has registered with WECC as provided in Part 1.4.2 of Section C.

Each Balancing Authority identified in the registration with WECC as provided in Part 1.4.2 of Section C shall be responsible for compliance with this Standard through its participation in the Reserve Sharing Group and not on an individual basis.

1.4.2. A Reserve Sharing Group may register as the Responsible Entity for purposes of compliance with this Standard by providing written notice to

the WECC: 1) indicating that the Reserve Sharing Group is registering as the Responsible Entity for purposes of compliance with this Standard, 2) identifying each Balancing Authority that is a member of the Reserve Sharing Group, and 3) identifying the person or organization that will serve as agent on behalf of the Reserve Sharing Group for purposes of communications and data submissions related to or required by this Standard.

1.4.3. If an agent properly designated in accordance with Part 1.4.2 of Section C identifies individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission, together with the percentage of responsibility attributable to each identified Balancing Authority, then, except as may otherwise be finally determined through a duly conducted review or appeal of the initial finding of noncompliance: 1) any penalties assessed for noncompliance by the Reserve Sharing Group shall be allocated to the individual Balancing Authorities identified in the applicable data submission in proportion to their respective percentages of responsibility as specified in the data submission, 2) each Balancing Authority shall be solely responsible for all penalties allocated to it according to its percentage of responsibility as provided in subsection 1) of this Part 1.4.3 of Section C, and 3) neither the Reserve Sharing Group nor any member of the Reserve Sharing Group shall be responsible for any portion of a penalty assessed against another member of the Reserve Sharing Group in accordance with subsection 1) of this Part 1.4.3 of Section C (even if the member of Reserve Sharing Group against which the penalty is assessed is not subject to or otherwise fails to pay its allocated share of the penalty).

1.4.4. If an agent properly designated in accordance with Part 1.4.2 of Section C fails to identify individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission or fails to specify percentages of responsibility attributable to each identified Balancing Authority, any penalties for noncompliance shall be assessed against the agent on behalf of the Reserve Sharing Group, and it shall be the responsibility of the members of the Reserve Sharing Group to allocate responsibility for such noncompliance.

1.4.5. Any Balancing Authority that is a member of a Reserve Sharing Group that has failed to register as provided in Part 1.4.2 of Section C shall be subject to this Standard on an individual basis.

Table of Compliance Elements

R	Time	VRF	Violation Severity Levels

	Horizon		Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.
R2	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 100% but greater than or equal to 90% of the required Operating Reserve–Spinning amount specified in Requirement R2,	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 90% but greater than or equal to 80% of the required Operating Reserve–Spinning amount	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 80% but greater than or equal to 70% of the required Operating Reserve–Spinning amount	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 70% of the required Operating Reserve–Spinning amount specified in Requirement

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			and both characteristics were met.	specified in Requirement R2, and both characteristics were met.	specified in Requirement R2, and both characteristics were met.	R2, and both characteristics were met.
R3	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R3.
R4	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating Reserve is less than 100% but greater than or equal to 90% of the required	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating Reserve is less than 90% but greater than or equal to 80% of the required	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating Reserve is less than 80% but greater than or equal to 70% of the required	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating Reserve is less than 70% of the required Operating Reserve

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Operating Reserve amount specified in Requirement R4.	Operating Reserve amount specified in Requirement R4.	Operating Reserve amount specified in Requirement R4.	amount specified in Requirement R4.

D. Regional Variances
None.

E. Interpretations

Interpretation Requested

Arizona Public Service (APS) sought clarification that for purposes of BAL-002-WECC-2, Requirement R2, APS and other Balancing Authorities and/or Reserve Sharing Groups can include "technologies, such as batteries, both contemplated and not yet contemplated…as potential resources [to meet the Operating Reserve – Spinning requirement of BAL-002-WECC-2, Requirement R2] – so long as the…resource can meet the response characteristics described in the standard."

A standards interpretation team comprised of members of the original BAL drafting team concluded that APS' understanding was correct.

"[N]on-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" so long as they meet the technical and performance requirements in Requirement R2 (i.e., that the resources must be immediately and automatically responsive to frequency deviations through the action of a control system and capable of fully responding within ten minutes).[1]
In Order 789, Paragraph 48, the Federal Energy Regulatory Commission (Commission) responded to the California Independent System Operator that:

Commission Determination

[1] FERC Order 789, P47. July 18, 2013.

See also FERC Order 740, Section E, Demand-Side Management as a Resource, at P 50:
"The Commission clarified that the purpose of this directive was to ensure comparable treatment of demand-side management with conventional generation or any other technology and to allow demand-side management to be considered as a resource for contingency reserves on this basis without requiring the use of any particular contingency reserve option."

48. The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language delineates how that technology must [] respond."[2] We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption."

[2] "Fn 44 Petition, Exhibit C at 20."

F. Associated Documents

None.

Attachment A

Attachment A is illustrative only; it is not a requirement. Requirement R1 calls for an amount of Contingency Reserve to be maintained, predicated on an amount of generation and load required in Requirement R1, Part 1.1., specifically:

> **"1.1** The greater of either:
>
> - The amount of Contingency Reserve equal to the loss of the most severe single contingency;
> - The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation."

Attachment A illustrates one possible way to account for and calculate the amount of generation upon which the Contingency Reserve amount is predicated.

Below is a practical illustration showing how the generation amount may be calculated under Requirement R1 for Balancing Authorities (BA) and Reserve Sharing Groups (RSG).

BA1 / RSG 1	**Generation**	**Part of Generator**
Generator 1	300 MWs online	Yes
Generator 2	200 MWs online	Yes
Generator 3 (Pseudo-Tied out to BA2)	100 MWs online	No
Generator 4 QF (has backup contract)	10 MWs online	No
Generator 5 QF in EMS	10 MWs online	Yes
Generator 6	0 MWs online	Yes

Dynamic Schedule to BA2 from BA1[3]	(50 MWs)	
Generation	620 MWs	(The sum of gen 1-6)
BA generation (EMS)	510 MWs	(The sum of gen 1, 2, and 5)
Generation to use Under BAL-002-WECC-1	460 MWs**	(The sum of gen 1, 2 and 5 minus Dynamic Schedule)

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would maintain reserves based on 510 MWs Generation.

BA2 / RSG2	**Generation**	**Part of Generator**
Generator 11	100 MWs	Yes
Generator 12	100 MWs	Yes
Generator 3 (Pseudo-Tied in from BA1)	100 MWs	Yes

[3] Note: This Dynamic Schedule is not the same as the Generator 3 Pseudo-Tie.

Dynamic Schedule from BA1 to BA2	50 MWs	Yes
Generation	300 MWs	(The sum of gen 11, 12 and 3.)
BA generation (EMS)	300 MWs	(The sum of gen 11, 12 and 3)
Generation to use Under BAL-002-WECC-1	350 MWs**	(The sum of gen 11, 12 and 3 plus Dynamic Schedule)

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would have to maintain reserves based on 510MWs Generation and BA2 would determine its generation to be 300 MWs.

Guideline and Technical Basis

A Guidance Document addressing implementation of this standard has been filed with this standard.

Version History

Version	Date	Action	Change Tracking
1	October 29, 2008	Adopted by NERC Board of Trustees	
1	October 21, 2010	Order issued remanding BAL-002-WECC-1	
2	November 7, 2012	Adopted by NERC Board of Trustees	
2	November 21, 2013	FERC Order issued approving BAL-002-WECC-2. (Order becomes effective 1/28/14.)	
2a	December 1, 2015	Approved by WECC Board of Directors	Clarified resources available for use in Requirement R2
2a	Pending	Approved by NERC Board of Trustees	Clarified resources available for use in Requirement R2

A. Introduction

1. **Title:** **Contingency Reserve**

2. **Number:** BAL-002-WECC-~~2~~2a

3. **Purpose:** To specify the quantity and types of Contingency Reserve required to ensure reliability under normal and abnormal conditions.

4. **Applicability:**

   4.1 Balancing Authority

   4.1.1. The Balancing Authority is the responsible entity unless the Balancing Authority is a member of a Reserve Sharing Group, in which case, the Reserve Sharing Group becomes the responsible entity.

   4.2 Reserve Sharing Group

   4.2.1. The Reserve Sharing Group when comprised of a Source Balancing Authority becomes the source Reserve Sharing Group.

   4.2.2. The Reserve Sharing Group when comprised of a Sink Balancing Authority becomes the sink Reserve Sharing Group.

5. **Effective Date:** ~~On the first day of the third quarter following applicable regulatory approval~~See Implementation Plan.

B. Requirements and Measures

R1. Each Balancing Authority and each Reserve Sharing Group shall maintain a minimum amount of Contingency Reserve, except within the first sixty minutes following an event requiring the activation of Contingency Reserve, that is: [*Violation Risk Factor: High] [Time Horizon: Real-time operations]*

1.1 The greater of either:

- The amount of Contingency Reserve equal to the loss of the most severe single contingency;
- The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation.

1.2 Comprised of any combination of the reserve types specified below:

- Operating Reserve – Spinning
- Operating Reserve - Supplemental
- Interchange Transactions designated by the Source Balancing Authority as Operating Reserve – Supplemental
- Reserve held by other entities by agreement that is deliverable on Firm Transmission Service
- A resource, other than generation or load, that can provide energy or reduce energy consumption
- Load, including demand response resources, Demand-Side Management resources, Direct Control Load Management, Interruptible Load or Interruptible Demand, or any other Load made available for curtailment by the Balancing Authority or the Reserve Sharing Group via contract or agreement.
- All other load, not identified above, once the Reliability Coordinator has declared an energy emergency alert signifying that firm load interruption is imminent or in progress.

1.3 Based on real-time hourly load and generating energy values averaged over each Clock Hour (excluding Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464).

1.4 An amount of capacity from a resource that is deployable within ten minutes.

M1. Each Balancing Authority and each Reserve Sharing Group will have documentation demonstrating its Contingency Reserve was maintained, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Part 1.1

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates its Contingency Reserve was maintained in accordance with the amounts identified in Requirement R1, Part 1.1, except within the first sixty minutes following an event requiring the activation of Contingency Reserve.

Attachment A is a practical illustration showing how the generation amount may be calculated under Requirement R1.

- Where Dynamic Schedules are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1 may include, but is not limited

to, documentation showing a reciprocal acknowledgement as to which entity is carrying the reserves. This transfer may be all or some portion of the physical generator and is not limited to the entire physical capability of the generator.

- Where Pseudo-Ties are used as part of the generation amount upon which Contingency Reserve is predicated, additional evidence of compliance with Requirement R1, Part 1.1, may include, but is not limited to, documentation accounting for the transfers included in the Pseudo-Ties.

Part 1.2

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.2. Evidence may include, but is not limited to, documentation that reserves were comprised of the types listed in Requirement R1, Part 1.2 for purposes of meeting the Contingency Reserve obligation of Requirement R1. Additionally, for purposes of the last bullet of Requirement R1, Part 1.2, evidence of compliance may include, but is not limited to, documentation that the reliability coordinator had issued an energy emergency alert, indicating that firm Load interruption was imminent or was in progress.

Part 1.3

Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates compliance with Requirement R1, Part 1.3. Evidence of compliance with Requirement R1, Part 1.3 may include, but is not limited to, documentation that Contingency Reserve amounts are based upon load and generating data averaged over each Clock Hour and excludes Qualifying Facilities covered in 18 C.F.R.§ 292.101, as addressed in FERC Order 464.

Part 1.4

Evidence of compliance with Requirement R1, Part 1.4 may include, but is not limited to, documentation that the reserves maintained to comply with Requirement R1, Part 1.4 are fully deployable within ten minutes.

R2. Each Balancing Authority and each Reserve Sharing Group shall maintain at least half of its minimum amount of Contingency Reserve identified in Requirement R1, as Operating Reserve – Spinning that meets both of the following reserve characteristics. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

2.1 Reserve that is immediately and automatically responsive to frequency deviations through the action of a governor or other control system;

2.2 Reserve that is capable of fully responding within ten minutes.

M2. Each Balancing Authority and each Reserve Sharing Group will have dated documentation that demonstrates it maintained at least half of the Contingency Reserve identified in Requirement R1 as Operating Reserve – Spinning, averaged over each Clock Hour, that met both of the reserve characteristics identified in Requirement R2, Part 2.1 and Requirement R2, Part 2.2.

R3. Each Sink Balancing Authority and each sink Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, except within the first sixty minutes following an event requiring the activation of Contingency Reserve. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M3. Each Sink Balancing Authority and each sink Reserve Sharing Group will have dated documentation demonstrating it maintained an amount of Operating Reserve, in addition to the Contingency Reserve identified in Requirement R1, equal to the amount of Operating Reserve–Supplemental for any Interchange Transaction designated as part of the Source Balancing Authority's Operating Reserve–Supplemental or source Reserve Sharing Group's Operating Reserve–Supplemental, for the entire period of the transaction, except within the first sixty minutes following an event requiring the activation of Contingency Reserves, in accordance with Requirement 3.

R4. Each Source Balancing Authority and each source Reserve Sharing Group shall maintain an amount of Operating Reserve, in addition to the minimum Contingency Reserve amounts identified in Requirement R1, equal to the amount and type of Operating Reserves for any Operating Reserve transactions for which it is the Source Balancing Authority or source Reserve Sharing Group. *[Violation Risk Factor: High] [Time Horizon: Real-time operations]*

M4. Each Source Balancing Authority and each source Reserve Sharing Group will have dated documentation that demonstrates it maintained an amount of additional Operating Reserves identified in Requirement R1, greater than or equal to the amount and type of that identified in Requirement 4, for the entire period of the transaction.

C. Compliance

1. Compliance Monitoring Process

1.1 Compliance Enforcement Authority

For entities that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.

For Reliability Coordinators and other functional entities that work for their Regional Entity, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

For responsible entities that are also Regional Entities, the ERO or a Regional Entity approved by the ERO and FERC or other applicable governmental authorities shall serve as the Compliance Enforcement Authority.

1.2 Compliance Monitoring and Assessment Processes:

Compliance Audit

Self-Certification

Spot Checking

Compliance Investigation

Self-Reporting

Complaint

1.3 Evidence Retention

The following evidence retention periods identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each Balancing Authority and each Reserve Sharing Group shall keep evidence for Requirement R1 through R4 for three years plus calendar current.

1.4. Additional Compliance Information

1.4.1. This Standard shall apply to each Balancing Authority and each Reserve Sharing Group that has registered with WECC as provided in Part 1.4.2 of Section C.

Each Balancing Authority identified in the registration with WECC as provided in Part 1.4.2 of Section C shall be responsible for compliance with this Standard through its participation in the Reserve Sharing Group and not on an individual basis.

1.4.2. A Reserve Sharing Group may register as the Responsible Entity for purposes of compliance with this Standard by providing written notice to the WECC: 1) indicating that the Reserve Sharing Group is registering as the Responsible Entity for purposes of compliance with this Standard, 2) identifying each Balancing Authority that is a member of the Reserve Sharing Group, and 3) identifying the person or organization that will serve as agent on behalf of the Reserve Sharing Group for purposes of communications and data submissions related to or required by this Standard.

1.4.3. If an agent properly designated in accordance with Part 1.4.2 of Section C identifies individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission, together with the percentage of responsibility attributable to each identified Balancing Authority, then, except as may otherwise be finally determined through a duly conducted review or appeal of the initial finding of noncompliance: 1) any penalties assessed for noncompliance by the Reserve Sharing Group shall be allocated to the individual Balancing Authorities identified in the applicable data submission in proportion to their respective percentages of responsibility as specified in the data submission, 2) each Balancing Authority shall be solely responsible for all penalties allocated to it according to its percentage of responsibility as provided in subsection 1) of this Part 1.4.3 of Section C, and 3) neither the Reserve Sharing Group nor any member of the Reserve Sharing Group shall be responsible for any portion of a penalty assessed against another member of the Reserve Sharing Group in accordance with subsection 1) of this Part 1.4.3 of Section C (even if the member of Reserve Sharing Group against which the penalty is assessed is not subject to or otherwise fails to pay its allocated share of the penalty).

1.4.4. If an agent properly designated in accordance with Part 1.4.2 of Section C fails to identify individual Balancing Authorities within the Reserve Sharing Group responsible for noncompliance at the time of data submission or fails to specify percentages of responsibility attributable to each identified Balancing Authority, any penalties for noncompliance shall be assessed against the agent on behalf of the Reserve Sharing Group, and it shall be the responsibility of the members of the Reserve Sharing Group to allocate responsibility for such noncompliance.

1.4.5. Any Balancing Authority that is a member of a Reserve Sharing Group that has failed to register as provided in Part 1.4.2 of Section C shall be subject to this Standard on an individual basis.

Table of Compliance Elements

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Contingency Reserve amount, with the characteristics specified in Requirement R1.
R2	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 100% but greater than or equal to 90% of the required	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 90% but greater than or equal to 80% of	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 80% but greater than or equal to 70% of	The Balancing Authority or the Reserve Sharing Group that incurs one Clock Hour, during a calendar month, in which Contingency Reserve Operating Reserve - Spinning is less than 70% of the required Operating

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	the required Operating Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.	Reserve–Spinning amount specified in Requirement R2, and both characteristics were met.
R3	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R3.	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R3.
R4	Real-time Operations	High	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating	The Balancing Authority or the Reserve Sharing Group that incurs one hour, during a calendar month, in which Contingency Reserve Operating

R	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Reserve is less than 100% but greater than or equal to 90% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 90% but greater than or equal to 80% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 80% but greater than or equal to 70% of the required Operating Reserve amount specified in Requirement R4.	Reserve is less than 70% of the required Operating Reserve amount specified in Requirement R4.

D. Regional Variances
None.

E. Interpretations
~~None~~

Interpretation Requested

Arizona Public Service (APS) sought clarification that for purposes of BAL-002-WECC-2, Requirement R2, APS and other Balancing Authorities and/or Reserve Sharing Groups can include "technologies, such as batteries, both contemplated and not yet contemplated…as potential resources [to meet the Operating Reserve – Spinning requirement of BAL-002-WECC-2, Requirement R2] – so long as the…resource can meet the response characteristics described in the standard."

A standards interpretation team comprised of members of the original BAL drafting team concluded that APS' understanding was correct.

"[N]on-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" so long as they meet the technical and performance requirements in Requirement R2 (i.e., that the resources must be immediately and automatically responsive to frequency deviations through the action of a control system and capable of fully responding within ten minutes).[1]

[1] FERC Order 789, P47. July 18, 2013.

See also FERC Order 740, Section E, Demand-Side Management as a Resource, at P 50:

In Order 789, Paragraph 48, the Federal Energy Regulatory Commission (Commission) responded to the California Independent System Operator that:

> **Commission Determination**
>
> 48. The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language delineates how that technology must [] respond."[2] We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption."

"The Commission clarified that the purpose of this directive was to ensure comparable treatment of demand-side management with conventional generation or any other technology and to allow demand-side management to be considered as a resource for contingency reserves on this basis without requiring the use of any particular contingency reserve option."

[2] "Fn 44 Petition, Exhibit C at 20."

F. Associated Documents

None.

Attachment A

Attachment A is illustrative only; it is not a requirement. Requirement R1 calls for an amount of Contingency Reserve to be maintained, predicated on an amount of generation and load required in Requirement R1, Part 1.1., specifically:

> **"1.1** The greater of either:
>
> - The amount of Contingency Reserve equal to the loss of the most severe single contingency;
> - The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load plus three percent of hourly integrated generation."

Attachment A illustrates one possible way to account for and calculate the amount of generation upon which the Contingency Reserve amount is predicated.

Below is a practical illustration showing how the generation amount may be calculated under Requirement R1 for Balancing Authorities (BA) and Reserve Sharing Groups (RSG).

BA1 / RSG 1	**Generation**	**Part of Generator**
Generator 1	300 MWs online	Yes
Generator 2	200 MWs online	Yes
Generator 3 (Pseudo-Tied out to BA2)	100 MWs online	No
Generator 4 QF (has backup contract)	10 MWs online	No
Generator 5 QF in EMS	10 MWs online	Yes
Generator 6	0 MWs online	Yes
Dynamic Schedule to BA2 from BA1[3]	(50 MWs)	
Generation	620 MWs	(The sum of gen 1-6)
BA generation (EMS)	510 MWs	(The sum of gen 1, 2, and 5)
Generation to use Under BAL-002-WECC-1	460 MWs**	(The sum of gen 1, 2 and 5 minus Dynamic Schedule)

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would maintain reserves based on 510 MWs Generation.

BA2 / RSG2	**Generation**	**Part of Generator**

[3] Note: This Dynamic Schedule is not the same as the Generator 3 Pseudo-Tie.

Generator 11	100 MWs		Yes
Generator 12	100 MWs		Yes
Generator 3 (Pseudo-Tied in from BA1)	100 MWs		Yes
Dynamic Schedule from BA1 to BA2	50 MWs		Yes
Generation	300 MWs	(The sum of gen 11, 12 and 3.)	
BA generation (EMS)	300 MWs	(The sum of gen 11, 12 and 3)	
Generation to use Under BAL-002-WECC-1	350 MWs**	(The sum of gen 11, 12 and 3 plus Dynamic Schedule)	

** Assumes BA1 and BA2 agree on Dynamic Schedule treatment. If no agreement, BA1 would have to maintain reserves based on 510MWs Generation and BA2 would determine its generation to be 300 MWs.

Guideline and Technical Basis

A Guidance Document addressing implementation of this standard has been filed with this standard.

Version History

Version	Date	Action	Change Tracking
1	October 29, 2008	Adopted by NERC Board of Trustees	
1	October 21, 2010	Order issued remanding BAL-002-WECC-1	
2	November 7, 2012	Adopted by NERC Board of Trustees	
2	November 21, 2013	FERC Order issued approving BAL-002-WECC-2. (Order becomes effective 1/28/14.)	
2a	December 1, 2015	Approved by WECC Board of Directors	Clarified resources available for use in Requirement R2
2a	Pending	Approved by NERC Board of Trustees	Clarified resources available for use in Requirement R2

Project Roadmap

Actions	Proposed Date
1. SAR Filed	3-5-2015
2. WSC approved the SAR	3-10-2015
3. WSC assigned original BAL DT, as available	3-10-2015
4. First DT meeting	4-30-2015
5. Posting 1 Comments Open	5-4-2015
6. Posting 1 Comments Closed (45-day)	6-18-2015
7. DT Meets to answer Comments	6-19-2015
8. WSC approves for Ballot	6-23-2015
9. Notice of Ballot Pool Forming	6-29-2015
10. Notice of Standards Briefing	7-6-2015
11. Ballot Pool – Open	7-7-2015
12. Ballot Pool – Closed	7-21-2015
13. Standards Briefing	7-22-2015
14. Ballot Open	7-23-2015
15. NERC Posting for 45 days – Open	8-4-2015
16. Ballot Closes	8-7-2015
17. NERC Posting for 45 days – Closed[1]	9-17-2015
18. WSC approves forwarding document to the WECC Board of	10-29-2015

[1] As no comments were received to address no further DT meetings were held.

Directors / Standards Documents to Admin	
19. WECC Board of Directors approval	6-16-2016
20. NERC Board of Trustees adoption	Pending
21. FERC approval	Pending

Standards Authorization Request

WECC-0114 BAL-002-WECC-2a Standard Authorization Request

Approvals Required

- WECC Board of Directors June 16, 2016
- NERC Board of Trustees Pending
- FERC Pending

Prerequisite Approvals

The project was balloted at WECC from July 23 through August 27, 2015. The WECC Ballot Pool approved the interpretation with a 100% affirmative vote, zero no votes, and three abstentions.

Results of that ballot are included elsewhere in this filing.

On October 29, 2015, the WECC Standards Committee (WSC) approved forwarding the interpretation to the WECC Board of Directors with a request for approval. Subsequent to this decision WECC received a WECC Standards Authorization Request (SAR) to retire Requirement R2 of BAL-002-WECC-2. Due to the nature of this SAR the WSC agreed to hold the request for WECC Board of Directors (Board) approval pending the outcome of the SAR to retire the requirement. The drafting team for the retirement of Requirement 2 project concluded that a field test of at least a year in length should be conducted prior to retirement of the Requirement. Due to the length of the field test the WSC concluded that the interpretation should move forward.

On June 16, 2016, the WECC Board approved the interpretation during the WECC June Board meeting.

Applicable Entities

- Balancing Authority
- Reserve Sharing Group

Conforming Changes to Other Standards

There are no conforming changes to other standards required to immediately implement the interpretation.

Effective Date

The Effective Date is proposed to be immediately upon receipt of regulatory approval.

Justification of Effective Date

On July 18, 2013, FERC issued Order 789 wherein it addressed the use of non-traditional resources for purposes of Operating Reserve – Spinning. This interpretation is in alignment with that earlier Order and should cause no undue surprise for the industry.

Consideration of Early Compliance

See above.

Retirements

There are no retirements required to immediately implement the interpretation.

Regional Reliability Standard Submittal Request
Attachment H

Region:	**Western Electricity Coordinating Council**
Regional Standard Number:	**BAL-002-WECC-2a**
Regional Standard Title:	**Contingency Reserves – Interpretation**
Date Submitted:	**September 16, 2016**
Regional Contact Name:	**Steven Rueckert**
Regional Contact Title:	**Director of Standards**
Regional Contact Telephone Number:	**(801) 883-6878**

Request (check all that apply):

- ☒ Interpret an Existing Standard
- ☐ Approval of a new standard
- ☐ Revision of an existing standard
- ☐ Withdrawal of an existing standard
- ☐ Urgent Action

Has this action been approved by your Board of Directors:

- ☒ Yes – June 16, 2016
- ☐ No

(If no please indicate date standard action is expected along with the current status (e.g., third comment period with anticipated board approval on mm/dd/year)):

The WECC Board of Directors approved the following resolution on June 16, 2016.

A. *Resolved*, that the Western Electricity Coordinating Council (WECC) Board of Directors (Board), acting on the recommendation of the WECC Standards Committee (WSC) at the meeting of the Board on June 16, 2016, hereby approves the interpretation of BAL-002-WECC-2, Contingency Reserve, Requirement R2 as attached hereto.

[Note: The purpose of the remaining questions is to provide NERC with the information needed to file the regional standard(s) with FERC. The information provided may to a large degree be used verbatim. It is extremely important for the entity submitting this form to provide sufficient detail that clearly delineates the scope and justification of the request.]	
Concise statement of the basis and purpose (scope) of request:	Arizona Public Service (APS) is seeking clarification that for purposes of BAL-002-WECC-2, Requirement R2, APS and other Balancing Authorities and/or Reserve Sharing Groups can include "technologies, such as batteries, both contemplated and not yet contemplated…as potential resources [to meet the Operating Reserve – Spinning requirement of BAL-002-WECC-2, Requirement R2] – so long as the…resource can meet the response characteristics described in the standard."
Concise statement of the justification of the request:	Pursuant to WECC's Reliability Standards Development Procedures (Procedures), a request for interpretation of a document developed under the Procedures is limited to clarifying existing requirements in the approved document and may not expand upon a requirement or provide guidance on how to implement a requirement. APS seeks clarification that it can use non-traditional resources for purposes of meeting BAL-002-WECC-2a, Contingency Reserves. Basing its conclusion on FERC Order 789, the Interpretation Drafting Team concurred that non-traditional resources could be used.

The proposed Interpretation of Requirement R2, BAL-002-WECC-2, Contingency Reserve, a Regional Reliability Standard (RRS), does not change or modify the standard in any way. It only interprets Requirement R2 of the document. Each of the following standardized questions was asked and answered when the original underlying RRS was filed and approved. As such, a brief response indicating no changes were made to the FERC-approved RRS has been provided to many of the standardized questions that follow.

NERC is responsible for ensuring that the Reliability Standards, Violation Risk Factors (VRF), Violation Severity Levels (VSL), definitions, Variances, and Interpretations developed by drafting teams are developed in accordance with NERC processes. They must also meet NERC's benchmarks for Reliability Standards, as well as criteria for governmental approval.

In FERC Order No. 672,[1] the Federal Energy Regulatory Commission (FERC) identified a number of criteria that it will use to analyze reliability standards proposed for approval to ensure they are just, reasonable, not unduly discriminatory or preferential, and in the public interest. The discussion below identifies these factors, and explains how the proposed regional reliability standard has met or exceeded the criteria:

1. **Proposed reliability standards must be designed to achieve a specified reliability goal.**

   The proposed Reliability Standard must address a reliability concern that falls within the requirements of section 215 of the Federal Power Act. That is, it must provide for the reliable operation of Bulk-Power System facilities. It may not extend beyond reliable operation of such facilities or apply to other facilities. Such facilities include all those necessary for operating an interconnected electric energy transmission network, or any portion of that network, including control systems. The proposed Reliability Standard may apply to any design of planned additions or modifications of such facilities that is necessary to provide for reliable operation. It may also apply to Cybersecurity protection. Order No. 672 at P 321.

   The proposed interpretation does not change the purpose of the FERC-approved RRS.

2. **Proposed reliability standards must contain a technically sound method to achieve the goal.**

   The proposed Reliability Standard must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve this goal. Although any person may propose a topic

[1] http://www.nerc.com/files/final_rule_reliability_Order_672.pdf

for a Reliability Standard to the ERO, in the ERO's process, the specific proposed Reliability Standard should be developed initially by persons within the electric power industry and community with a high level of technical expertise and be based on sound technical and engineering criteria. It should be based on actual data and lessons learned from past operating incidents, where appropriate. The process for ERO approval of a proposed Reliability Standard should be fair and open to all interested persons. Order No. 672 at P 324.

No Change to the Standard

Pursuant to the WECC Reliability Standards Development Procedures (Procedures), a request for interpretation of a document is limited to clarifying existing requirements in the approved document and may not expand upon a requirement or provide guidance on how to implement a requirement. This interpretation does not change any of the reliability-related substance of the FERC-approved RRS.

Standard Development

This filing of BAL-002-WECC-2a was developed using the NERC and WECC Standards development processes approved by FERC in effect at each point in the process. Among other things, these processes include drafting of the interpretation by a drafting team composed of subject matter experts (SMEs) from the original drafting team; biographies of those SMEs are provided with this filing. These processes also include repeated public iterative comment/response cycles whereby comments are received from the industry and responses to those comments are provided by the drafting team.

Foundation for the Interpretation

The Interpretation is based on FERC Order 789. In Order 789, Paragraph 48, the Federal Energy Regulatory Commission (Commission) responded to the California Independent System Operator that:

Commission Determination

"48. The Commission determines that non-traditional resources, including electric storage facilities, may qualify as "Operating Reserve – Spinning" provided those resources satisfy the technical and performance requirements in Requirement R2. Our determination is supported by the standard drafting team's response to a comment during the standard drafting process where the standard drafting team stated that "technologies, such as batteries, both contemplated and not yet contemplated are included in the standard as potential resources – so long as the undefined resource can meet the response characteristics described in the standard …The language does not preclude any specific technology; rather, the language

delineates how that technology must [] respond."[2] We also note that non-traditional resources could contribute to contingency reserve under the regional Reliability Standard if they are resources, "other than generation or load, that can provide energy or reduce energy consumption."[SR1]

3. **Proposed reliability standards must be applicable to users, owners, and operators of the bulk power system, and not others.**

   The proposed Reliability Standard may impose a requirement on any user, owner, or operator of such facilities, but not on others. Order No. 672 at P 322.

   The proposed interpretation does not change the applicability of the FERC-approved RRS. BAL-002-WECC-2a complies with Order 672 in that it applies only to Balancing Authorities and Reserve Sharing Groups in the Western Interconnection.

4. **Proposed reliability standards must be clear and unambiguous as to what is required and who is required to comply.**

   The proposed Reliability Standard should be clear and unambiguous regarding what is required and who is required to comply. Users, owners, and operators of the Bulk-Power System must know what they are required to do to maintain reliability. Order No. 672 at P 325.

   The proposed interpretation does not change the requirements of the standard or the applicability. It was posted for separate 45-day comment periods at WECC and NERC. There were no negative concerns, no minority positions, and no requests for changes in either posting. When balloted, the Ballot Pool approved the project with a 100 percent weighted sector approval, with zero negative votes and three abstentions.

5. **Proposed reliability standards must include clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation.**

   The proposed interpretation does not change or impact any of the FERC-approved VRFs or VSLs.

6. **Proposed reliability standards must identify clear and objective criterion or measure for compliance, so that it can be enforced in a consistent and non-preferential manner.**

   There should be a clear criterion or measure of whether an entity is in compliance with a proposed Reliability Standard. It should contain or be accompanied by an objective measure of compliance so that it can be enforced and so that enforcement can be applied in a consistent and non-preferential manner. Order No. 672 at P 327.

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[2] "Fn 44 Petition, Exhibit C at 20."

The proposed interpretation does not change any of the Measures in the FERC-approved RRS.

7. **Proposed reliability standards should achieve a reliability goal effectively and efficiently - but does not necessarily have to reflect "best practices" without regard to implementation cost.**

   The proposed Reliability Standard does not necessarily have to reflect the optimal method, or "best practice," for achieving its reliability goal without regard to implementation cost or historical regional infrastructure design. It should however achieve its reliability goal effectively and efficiently. Order No. 672 at P 328.

   The proposed interpretation does not change any of the reliability-related substance of the underlying FERC-approved RRS.

8. **Proposed reliability standards cannot be "lowest common denominator," i.e., cannot reflect a compromise that does not adequately protect bulk power system reliability.**

   The proposed Reliability Standard must not simply reflect a compromise in the ERO's Reliability Standard development process based on the least effective North American practice — the so-called "lowest common denominator" — if such practice does not adequately protect Bulk-Power System reliability. Although the Commission will give due weight to the technical expertise of the ERO, we will not hesitate to remand a proposed Reliability Standard if we are convinced it is not adequate to protect reliability. Order No. 672 at P 329.

   The proposed interpretation does not change any of the reliability-related substance of the underlying FERC-approved RRS.

9. **Proposed reliability standards may consider costs to implement for smaller entities but not at consequence of less than excellence in operating system reliability.**

   A proposed Reliability Standard may take into account the size of the entity that must comply with the Reliability Standard and the cost to those entities of implementing the proposed Reliability Standard. However, the ERO should not propose a "lowest common denominator" Reliability Standard that would achieve less than excellence in operating system reliability solely to protect against reasonable expenses for supporting this vital national infrastructure. For example, a small owner or operator of the Bulk-Power System must bear the cost of complying with each Reliability Standard that applies to it. Order No. 672 at P 330.

   The proposed interpretation does not change any of the reliability-related substance of the underlying FERC-approved RRS.

10. **Proposed reliability standards must be designed to apply throughout North America to the maximum extent achievable with a single reliability standard while not favoring one area or approach.**

A proposed Reliability Standard should be designed to apply throughout the interconnected North American Bulk-Power System to the maximum extent this is achievable with a single Reliability Standard. The proposed Reliability Standard should not be based on a single geographic or regional model but should take into account geographic variations in grid characteristics, terrain, weather, and other such factors; it should also take into account regional variations in the organizational and corporate structures of transmission owners and operators, variations in generation fuel type and ownership patterns, and regional variations in market design if these affect the proposed Reliability Standard. Order No. 672 at P 331.

The proposed interpretation does not alter or otherwise change the applicable entities operating within the Western Interconnection that are identified in the FERC-approved RRS.

11. Proposed reliability standards should cause no undue negative effect on competition or restriction of the grid.

As directed by section 215 of the FPA, the Commission itself will give special attention to the effect of a proposed Reliability Standard on competition. The ERO should attempt to develop a proposed Reliability Standard that has no undue negative effect on competition. Among other possible considerations, a proposed Reliability Standard should not unreasonably restrict available transmission capability on the Bulk-Power System beyond any restriction necessary for reliability and should not limit use of the Bulk-Power System in an unduly preferential manner. It should not create an undue advantage for one competitor over another. Order No. 672 at P 332

The proposed interpretation is not anticipated to have any negative impact on competition. Rather, due to the clarification provided additional markets may be availed to fulfil the associated reserve requirements.

12. The implementation time for the proposed reliability standards must be reasonable.

In considering whether a proposed Reliability Standard is just and reasonable, the Commission will consider also the timetable for implementation of the new requirements, including how the proposal balances any urgency in the need to implement it against the reasonableness of the time allowed for those who must comply to develop the necessary procedures, software, facilities, staffing or other relevant capability. Order No. 672 at P 333

The requested implementation time of immediately upon regulatory approval is reasonable. In light of the earlier July 18, 2013 FERC Order 789, entities may already be implementing the practices clarified in the interpretation.

13. The reliability standard development process must be open and fair.

Further, in considering whether a proposed Reliability Standard meets the legal standard of review, we will entertain comments about whether the ERO implemented its Commission-approved Reliability Standard development process for the development of the particular proposed

Reliability Standard in a proper manner, especially whether the process was open and fair. However, we caution that we will not be sympathetic to arguments by interested parties that choose, for whatever reason, not to participate in the ERO's Reliability Standard development process if it is conducted in good faith in accordance with the procedures approved by the Commission. Order No. 672 at P 334

WECC followed the standard development process approved by FERC in effect at the time of each step in the process.

In accordance with the Procedures, effective March 1, 2012, all drafting team meetings are open to the public.

Two drafting team meetings were held. One meeting addressed the issue; one meeting addressed responses to comments.

Notice of the meetings was provided to NERC, posted on the WECC Web site and embedded in the minutes of each meeting. Meeting minutes are posted on the WECC Web site and accessible by the public.

All meetings were supported by a telephone conference bridge associated with an on-line internet visual capability allowing all participants to see the document(s) as they were being developed. Further, this team held an open-mic standards briefing prior to balloting affording the industry an additional opportunity to have its questions addressed.

The proposed interpretation was posted for separate 45-day comment periods at WECC and at NERC. Neither posting resulted in any requests for change.

Comments and their responses are included in this filing and posted on the WECC Web Site at the WECC-0114 Project Page on the Submitted and Review Comments accordion.

14. Proposed reliability standards must balance with other vital public interests.

Finally, we understand that at times development of a proposed Reliability Standard may require that a particular reliability goal must be balanced against other vital public interests, such as environmental, social and other goals. We expect the ERO to explain any such balancing in its application for approval of a proposed Reliability Standard. Order No. 672 at P 335

WECC is not aware of any other vital public interests. No such balancing concerns were raised or noted.

15. Proposed reliability standards must consider any other relevant factors.

In considering whether a proposed Reliability Standard is just and reasonable, we will consider the following general factors, as well as other factors that are appropriate for the particular Reliability Standard proposed. Order No. 672 at P 323

WECC is not aware of any other relevant factors and none were raised during development.

Attachment J: Drafting Team Roster

WECC-0114 BAL-002-WECC-2a
Contingency Reserve
Request for Interpretation

Below please find a biographical snapshot for the members of the WECC-0114 BAL-002-WECC-2a, Contingency Reserve – Interpretation Drafting Team.

Bart McManus

Mr. McManus received his Bachelor of Science in Electrical Engineering from the University of Washington and has been at the Bonneville Power Authority (BPA) since 1994. Mr. McManus was the lead programmer for the Automatic Generation Control (AGC) system for multiple years, before becoming the lead for AGC and other Balancing Authority Area Operations at BPA. Mr. McManus began working on wind integration issues in 2006, and now serves as the wind integration lead for BPA Transmission Operations.

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Mr. Frederick is a Cost/Plant/Power Production Analyst for Salt River Project (SRP). He has worked in merchant and reliability areas at SRP since 1999. He was Administrator of the Southwest Reserve Sharing Group until 2014.

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Mr. Tice holds a Bachelor of Science in mechanical engineering from Indiana Institute of Technology in 1970. Mr. Tice is a registered professional engineer licensed by the State of Pennsylvania.

Ballot Body Roster **BAL-002-WECC-2a**

Ballot Period: **7/23/2015- 8/7/2015**

Title	Company	Sector	Vote	Comments	Created By
WECC-0114	Arizona Public Service Company	Marketers and Brokers	Yes		Todd Komaromy
WECC-0114	Arizona Public Service Company	Generation	Yes		Michelle Amarantos
WECC-0114	Arizona Public Service Company	Distribution	Yes		Michelle Amarantos
WECC-0114	Arizona Public Service Company	System Coordination	Yes		Stephanie Little
WECC-0114	Arizona Public Service Company	Transmission	Yes		Gary Nolan
WECC-0114	Avista Corporation	Marketers and Brokers	Yes		Scott Kinney
WECC-0114	Avista Corporation	Transmission	Yes		Bryan Cox
WECC-0114	Balancing Authority of Northern California	System Coordination	Yes		Joe Tarantino
WECC-0114	Bonneville Power Administration	Transmission	Yes		Donald Watkins
WECC-0114	Bonneville Power Administration	Marketers and Brokers	Yes		Alex Spain
WECC-0114	Bonneville Power Administration	System Coordination	Yes	We are in agreement with this interpretation.	Francis Halpin
WECC-0114	Bonneville Power Administration	Distribution	Yes		Rebecca Berdahl
WECC-0114	BC Hydro and Power Authority	Transmission	Abstain		Patricia Robertson

WECC-0114	BC Hydro and Power Authority	System Coordination	Abstain		Patricia Robertson
WECC-0114	BC Hydro and Power Authority	Distribution	Yes		Pat Harrington
WECC-0114	City of Tacoma, Department of Public Utilities, Light Division	System Coordination	Yes		Twila Hofer
WECC-0114	City of Tacoma, Department of Public Utilities, Light Division	Generation	Yes		Karen Hedlund
WECC-0114	City of Tacoma, Department of Public Utilities, Light Division	Transmission	Yes		Joseph Wilson
WECC-0114	City of Tacoma, Department of Public Utilities, Light Division	Distribution	Yes		Chad Edinger
WECC-0114	Iberdrola Renewables	Generation	Yes		Joe Polen
WECC-0114	NaturEner Power Watch, LLC	Generation			Marc DeNarie
WECC-0114	Platte River Power Authority	Marketers and Brokers	Yes		Carol Ballantine
WECC-0114	Platte River Power Authority	Generation	Abstain	N/A	Tyson Archie
WECC-0114	Platte River Power Authority	Transmission			Terry Baker
WECC-0114	Portland General Electric Company	Transmission			John Walker
WECC-0114	Powerex Corp.	Marketers and Brokers			Raj Hundal
WECC-0114	Public Service Company of Colorado	Marketers and Brokers	Yes		Peter Colussy
WECC-0114	Public Service Company of Colorado	Distribution	Yes		Chad Nickell
WECC-0114	Public Service Company of Colorado	System Coordination	Yes		Robert Staton
WECC-0114	Public Service Company of Colorado	Transmission	Yes		Robert Staton
WECC-0114	Public Service Company of New Mexico	System Coordination	Yes		Laurie Williams

WECC-0114	Public Service Company of New Mexico	Generation	Yes	Laurie Williams
WECC-0114	Public Service Company of New Mexico	Distribution	Yes	Laurie Williams
WECC-0114	Public Service Company of New Mexico	Transmission	Yes	Laurie Williams
WECC-0114	Public Service Company of New Mexico	Marketers and Brokers	Yes	Laurie Williams
WECC-0114	Puget Sound Energy, Inc.	Transmission	Yes	Theresa Rakowsky
WECC-0114	Puget Sound Energy, Inc.	Generation		Lynda Kupfer
WECC-0114	Puget Sound Energy, Inc.	Marketers and Brokers		Andrea Basinski
WECC-0114	Sacramento Municipal Utility District	System Coordination	Yes	Joe Tarantino
WECC-0114	Sacramento Municipal Utility District	Transmission	Yes	Joe Tarantino
WECC-0114	Sacramento Municipal Utility District	Generation	Yes	Joe Tarantino
WECC-0114	Sacramento Municipal Utility District	Distribution	Yes	Joe Tarantino
WECC-0114	Sacramento Municipal Utility District	Marketers and Brokers	Yes	Joe Tarantino
WECC-0114	Salt River Project Agricultural Improvement and Power District	Transmission		Kevin Nielsen
WECC-0114	Salt River Project Agricultural Improvement and Power District	Distribution		Kevin Nielsen

WECC-0114	Salt River Project Agricultural Improvement and Power District	Generation			Kevin Nielsen
WECC-0114	Salt River Project Agricultural Improvement and Power District	System Coordination			Kevin Nielsen
WECC-0114	Salt River Project Agricultural Improvement and Power District	Marketers and Brokers			William Abraham
WECC-0114	Seattle City Light	Generation	Yes		Mike Haynes
WECC-0114	Seattle City Light	Transmission	Yes		Hao Li
WECC-0114	Seattle City Light	Marketers and Brokers			Dennis Sismaet
WECC-0114	Southern California Edison - Transmission & Distribution	Distribution	Yes		Steven Mavis
WECC-0114	Southern California Edison - Transmission & Distribution	Transmission	Yes		Steven Mavis
WECC-0114	Tri-State Generation and Transmission Association, Inc. - Reliability	Transmission	Yes		Tracy Sliman
WECC-0114	Tucson Electric Power	System Coordination			John Tolo
WECC-0114	Tucson Electric Power	Transmission			John Tolo
WECC-0114	Tucson Electric Power	Distribution			John Tolo
WECC-0114	Tucson Electric Power	Generation			John Tolo
WECC-0114	Western Area Power Administration – LAP	Marketers and Brokers	Yes		Kenneth Otto
WECC-0114	Western Area Power Administration - Rocky Mountain Region	Transmission	Yes	Interpretation follows the line of reasoning followed by FERC Order 789, Paragraph 48 using the terminology of the NERC drafting team for BAL-002	James Hirning

WECC Standards Voting Summary

Ballot Name: **WECC-0114**
BAL-002-WECC-2a
Contingency Reserve - Request for Interpretation

Ballot Pool Opened: 7/6/2015 - 7/21/2015
Ballot Period: 7/23/2015 - 8/7/2015
Total Ballot Pool: 60
Total Votes: 44

Quorum: 73.3%
Weighted Vote: 100.0%
Ballot Results The Document has Passed

	Total In Ballot Pool	Votes Non-Abstain	Sector Weight	Yes Votes	Weighted Segment Vote	No Votes	Abstain	Total Votes* for Quorum	Didn't Vote
Distribution	10	8	0.8	8	80.0%	0	0	8	2
End User Representative	0	0	0	0	0.0%	0	0	0	0
Generation	11	6	0.6	6	60.0%	0	1	7	4
Marketers and Brokers	12	8	0.8	8	80.0%	0	0	8	4
Other Non-Registered WECC Members and Participating Stakeholders	0	0	0	0	0.0%	0	0	0	0
State and Provincial Representatives	0	0	0	0	0.0%	0	0	0	0
System Coordination	10	7	0.7	7	70.0%	0	1	8	2
Transmission	17	12	1	12	100.0%	0	1	13	4
Totals	60	41	3.9	41	**100.0%**	0	3	44	16

WECC

WESTERN ELECTRICITY COORDINATING COUNCIL
155 North 400 West, Suite
200 Salt Lake City, Utah
84103-1114

Attachment O: WECC Standards Committee Roster

WECC-0114 BAL-002-WECC-2a
Contingency Reserve
Request for Interpretation

The following individuals are those assigned to the WECC Standards Committee as of September 15, 2015.

Sector	Name	Organization
1 Transmission	Dana Cabbell	Southern California Edison
2 Generation	Angela Small	NAES
3 Marketers and Brokers	Tanner Brier	Bonneville Power Administration
4 Distribution	Warren Rust	Colorado Springs Utilities
5 System Coordination	Joseph Tarantino	Sacramento Muni. Utility District
6 End User Representative	Caitlin Liotiris	Energy Strategies
7 State and Provincial	David Walker	Wyoming Public Service Commission
8 Other Non-Registered Entities	Crystal Musselman	Proven Compliance Solutions
Board of Directors	Joe McArthur	Non-Affiliate Director / WSC Chair

WECC

WESTERN ELECTRICITY COORDINATING COUNCIL
155 North 400 West, Suite 200
Salt Lake City, Utah 84103-1114

Attachment R1: Response to Comments

WECC-0114 BAL-002-WECC-2a
Contingency Reserve
Request for Interpretation

Posting #1

The WECC-0114, BAL-002-WECC-2a, Request for Interpretation Drafting Team (DT) thanks everyone who submitted comments on the proposed documents.

Posting

This document was last posted for a 45-day public comment period from May 4 through June 18, 2015.

WECC distributed the notice for the posting on May 1, 2015. The DT asked stakeholders to provide feedback on the proposed document through a standardized electronic template. WECC received comments from one company representing three of the eight Industry Segments, as shown in the table on the following page.

Location of Comments

All comments received on the document can be viewed in their original format on the project page under the "Submit and Review Comments" accordion.

Changes in Response to Comment

After consideration of comments received, the DT made no further changes to the project.

Action Plan

On June 19, 2015, the DT agreed by consensus to forward the project to the WECC Standards Committee with a request for ballot.

Contacts and Appeals

If you feel your comment has been omitted or overlooked, please contact the Manager, WECC Standards Processes, W. Shannon Black, at sblack@wecc.biz. In addition, there is a WECC Reliability Standards Appeals Process.

The WECC Standards Voting Sectors are:

1 — Transmission Sector

2 — Generation Sector

3 — Marketers and Brokers Sector

4 — Distribution Sector

5 — System Coordination Sector

6 — End Use Representative Sector

7 — State and Provincial Representatives Sector

8 — Other Non-Registered WECC Members and Participating Stakeholders Sector

Commenter		Organization	WECC Standards Voting Sectors							
			1	2	3	4	5	6	7	8
1	Molly Devine	Idaho Power	**X**	**X**		**X**				

Index to Questions, Comments, and Responses

Question

1. The drafting team invites comments on all aspects of the proposed document**.**

Summary Consideration:	See summary in the preamble of this document.		
Commenter	Yes	No	Comment
Idaho Power			Idaho Power agrees with the interpretation provided in this posting.
The DT appreciates Idaho Power's continued involvement in the standards development process.			

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Attachment R2
Consideration of Comments
Regional Reliability Interpretation BAL-002-WECC-2a

The Regional Reliability Standard Interpretation Drafting Team (IDT) thanks all those who submitted comments on the BAL-002-WECC-2a, Contingency Reserve, Request for Interpretation. No adverse comments, minority opinions, or requests for change were provided during the posting. As a result, no further changes were made to the project.

This standard was posted for a 45-day public comment period from August 4, 2015 through September 17, 2015. Stakeholders were asked:

1. Do you agree the proposed interpretation was developed in a fair and open process, using the associated Regional Reliability Standards Development Procedure?

2. Does the proposed interpretation pose an adverse impact to reliability or commerce in a neighboring region or interconnection?

3. Does the proposed interpretation pose a serious and substantial threat to public health, safety, welfare, or national security?

4. Does the proposed interpretation pose a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability?

Three entities provided comments. All three agreed that the proposed interpretation: 1) was developed in a fair and open process, 2) does not pose an adverse impact to reliability or commerce, 3) does not pose a serious and substantial threat to public health, safety, welfare or national security, and 4) does not pose a serious and substantial burden on competitive markets within the interconnection.

NERC documents and information about this project are available on the NERC Regional Reliability Standards Under Development page.

Exhibit E

Interpretation Drafting Team Roster

Drafting Team Roster WECC-0114
BAL-002-WECC-2a Contingency Reserve
Request for Interpretation

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