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DEPARTMENT OF ENERGY
FEDERAL ENERGY REGULATORY COMMISSION

18 CFR Part 40

[Docket No. RM16-7-000]

Disturbance Control Standard—Contingency Reserve for Recovery from a Balancing Contingency Event Reliability Standard

AGENCY: Federal Energy Regulatory Commission.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Federal Energy Regulatory Commission proposes to approve Reliability Standard BAL-002-2 (Disturbance Control Standard—Contingency Reserve for Recovery from a Balancing Contingency Event) submitted by the North American Electric Reliability Corporation (NERC). Proposed Reliability Standard BAL-002-2 is designed to ensure that applicable entities balance resources and demand and return their Area Control Error to defined values following a Reportable Balancing Contingency Event. In addition, the Commission proposes to direct NERC to modify Reliability Standard BAL-002-2 to address concerns related to the possible extension or delay of the periods for Area Control Error recovery and contingency reserve restoration. The Commission also proposes to direct NERC to address a reliability gap regarding megawatt losses above the most severe single contingency.

DATES: Comments are due **[INSERT DATE 60 days after publication in the FEDERAL REGISTER**].

ADDRESSES: Comments, identified by docket number, may be filed in the following

ways:

- Electronic Filing through http://www.ferc.gov. Documents created electronically using word processing software should be filed in native applications or print-to-PDF format and not in a scanned format.
- Mail/Hand Delivery: Those unable to file electronically may mail or hand-deliver comments to: Federal Energy Regulatory Commission, Secretary of the Commission, 888 First Street, NE, Washington, DC 20426.

Instructions: For detailed instructions on submitting comments and additional information on the rulemaking process, see the Comment Procedures Section of this document.

FOR FURTHER INFORMATION CONTACT:

Enakpodia Agbedia (Technical Information)
Office of Electric Reliability, Division of Reliability Standards
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426
Telephone: (202) 502-6750
Enakpodia.Agbedia@ferc.gov

Mark Bennett (Legal Information)
Office of the General Counsel
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426
Telephone: (202) 502-8524
Mark.Bennett@ferc.gov

SUPPLEMENTARY INFORMATION:

1. Under section 215 of the Federal Power Act (FPA),[1] the Commission proposes to approve proposed Reliability Standard BAL-002-2 (Disturbance Control Standard—Contingency Reserve for Recovery from a Balancing Contingency Event). The North American Electric Reliability Corporation (NERC), the Commission-certified Electric Reliability Organization (ERO), submitted proposed Reliability Standard BAL-002-2 for Commission approval. Proposed Reliability Standard BAL-002-2 applies to balancing authorities and reserve sharing groups. Proposed Reliability Standard BAL-002-2 is designed to ensure that these entities are able to recover from system contingencies by deploying adequate reserves to return their Area Control Error (ACE) to defined values and by replacing the capacity and energy lost due to generation or transmission equipment outages.[2] In addition, the Commission proposes to approve eight new and revised definitions proposed by NERC for inclusion in the NERC Glossary of Terms Used in NERC Reliability Standards (NERC Glossary) and to retire currently-effective Reliability Standard BAL-002-1 immediately prior to the effective date of proposed Reliability Standard BAL-002-2. The Commission also proposes to approve, with certain modifications, the associated violation risk factors and violation severity levels, and

[1] 16 U.S.C. 824(o). Proposed Reliability Standard BAL-002-2 is available on the Commission's eLibrary document retrieval system in Docket No. RM16-7-000 and on the NERC website, www.nerc.com.

[2] ACE is the instantaneous difference between a balancing authority's Net Actual and Scheduled Interchange, taking into account the effects of Frequency Bias, correction for meter error, and Automatic Time Error Correction, if operating in that mode. NERC Glossary of Terms Used in NERC Reliability Standards at 7 (updated April 20, 2016).

implementation plan.

2. Pursuant to section 215(d)(5) of the FPA,[3] the Commission proposes to direct NERC to modify Reliability Standard BAL-002-2 to address concerns related to the possible extension or delay of the periods for ACE recovery and contingency reserve restoration. The Commission also proposes to direct NERC to address a reliability gap regarding megawatt losses above the most severe single contingency.

I. Background

A. Mandatory Reliability Standards and Order No. 693 Directives

3. Section 215 of the FPA requires a Commission-certified Electric Reliability Organization (ERO) to develop mandatory and enforceable Reliability Standards that are subject to Commission review and approval. The Commission may approve, by rule or order, a proposed Reliability Standard or modification to a Reliability Standard if it determines that the Standard is just, reasonable, not unduly discriminatory or preferential and in the public interest.[4] Once approved, the Reliability Standards may be enforced by NERC, subject to Commission oversight, or by the Commission independently.[5] Pursuant to section 215 of the FPA, the Commission established a process to select and

[3] 16 U.S.C. 824o(d)(5).

[4] *Id.* 824o(d)(2).

[5] *Id.* 824o(e).

certify an ERO,[6] and subsequently certified NERC.[7]

4. On March 16, 2007, the Commission issued Order No. 693, approving 83 of the 107 Reliability Standards filed by NERC, including Reliability Standard BAL-002-0.[8] In addition, pursuant to section 215(d)(5) of the FPA, the Commission directed the ERO to develop modifications to Reliability Standard BAL-002-0 to: (1) include a requirement that explicitly provides that demand side management may be used as a resource for contingency reserves; (2) develop a continent-wide contingency reserve policy; and (3) refer to the ERO rather than the NERC Operating Committee in Requirements R4.2 and R6.2.[9] On January 10, 2011, the Commission approved Reliability Standard BAL-002-1, which addressed the third directive described above.[10]

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

[7] *North American Electric Reliability Corp.*, 116 FERC ¶ 61,062, *order on reh'g and compliance*, 117 FERC ¶ 61,126 (2006), *aff'd sub nom. Alcoa, Inc. v. FERC*, 564 F.3d 1342 (D.C. Cir. 2009).

[8] *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, FERC Stats. & Regs. ¶ 31,242, *order on reh'g,* Order No. 693-A, 120 FERC ¶ 61,053 (2007).

[9] Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 356.

[10] *North American Electric Reliability Corp.*, 134 FERC ¶ 61,015 (2011).

B. Proposed Reliability Standard BAL-002-2

5. On January 29, 2016, NERC filed a petition seeking approval of proposed Reliability Standard BAL-002-2; eight new or revised definitions to be added to the NERC Glossary; and the associated violation risk factors and violation severity levels, effective date, and implementation plan.[11] NERC states that the proposed Reliability Standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest because it satisfies the factors set forth in Order No. 672, which the Commission applies when reviewing a proposed Reliability Standard.[12] NERC also contends that proposed Reliability Standard BAL-002-2 addresses the outstanding directives from Order No. 693 regarding the use of demand side management as a resource for contingency reserve and the development of a continent-wide contingency reserve policy.

6. NERC proposes to consolidate six requirements in currently-effective Reliability Standard BAL-002-1 into three requirements. NERC contends that proposed Reliability Standard BAL-002-2 improves upon existing Reliability Standard BAL-002-1 because "it clarifies obligations associated with achieving the objective of BAL-002 by streamlining

[11] The eight proposed new and revised definitions for inclusion in the NERC Glossary are for the following terms: Balancing Contingency Event, Most Severe Single Contingency, Reportable Balancing Contingency Event, Contingency Event Recovery Period, Contingency Reserve Restoration Period, Pre-Reporting Contingency Event ACE Value, Reserve Sharing Group Reporting ACE, and Contingency Reserve. NERC Petition at 28-34.

[12] NERC Petition at 13 and Ex. F (Order No. 672 Criteria).

and organizing the responsibilities required therein, enhancing the obligation to maintain reserves, and further defining events that predicate action under the standard."[13] NERC also maintains that proposed Reliability Standard BAL-002-2 "address[es] and supersede[s]" the proposed interpretation previously submitted by NERC (i.e., of Reliability Standard BAL-002-1a) and now pending in Docket No. RM13-6-000.[14]

7. Proposed Requirement R1 requires a responsible entity, either a balancing authority or reserve sharing group, experiencing a Reportable Balancing Contingency Event to deploy its contingency reserves to recover its ACE to certain prescribed values within the Contingency Event Recovery Period of 15 minutes.[15] However, proposed

[13] *Id.* at 13.

[14] *Id.* at 1. On February 12, 2013, NERC filed a proposed interpretation of Reliability Standard BAL-002-1 that construed the Reliability Standard so that the 15 minute ACE recovery period would not apply to events of a magnitude exceeding an entity's most severe single contingency. In a NOPR issued on May 16, 2013, the Commission proposed to remand the proposed interpretation on procedural grounds. *Electric Reliability Organization Interpretation of Specific Requirements of the Disturbance Control Performance Standard*, 143 FERC ¶ 61,138 (2013). The rulemaking on the proposed interpretation is pending. In the petition in the immediate proceeding, NERC states that, upon approval of proposed Reliability Standard BAL-002-2, NERC will file a notice of withdrawal of the proposed interpretation. NERC Petition at 1.

[15] Reportable Balancing Contingency Event means: "Any Balancing Contingency Event occurring within a one-minute interval of an initial sudden decline in ACE based on EMS scan rate data that results in a loss of MW output less than or equal to the Most Severe Single Contingency, and greater than or equal to the lesser amount of: (i) 80% of the Most Severe Single Contingency, or (ii) the amount listed below for the applicable Interconnection. Prior to any given calendar quarter, the 80% threshold may be reduced by the responsible entity upon written notification to the Regional Entity." NERC Petition at 30. Contingency Event Recovery Period means: "A period that begins at the

(continued…)

Reliability Standard BAL-002-2 relieves responsible entities from strict compliance with the existing time periods for ACE recovery and contingency reserve restoration "to ensure responsible entities retain flexibility to maintain service to Demand, while managing reliability, and to avoid duplication with other Reliability Standards."[16]

8. Specifically, Requirement R1, Part 1.3.1 provides that a balancing authority or reserve sharing group is not subject to Requirement R1, Part 1.1 if it: (1) is experiencing a Reliability Coordinator declared Energy Emergency Alert Level; (2) is utilizing its contingency reserve to mitigate an operating emergency in accordance with its emergency Operating Plan, and (3) has depleted its contingency reserve to a level below its most severe single contingency (MSSC).

9. In addition, under Requirement R1, Part 1.3.2, a balancing authority or reserve sharing group is not subject to Requirement R1, Part 1.1 if the balancing authority or reserve sharing group experiences: (1) multiple Contingencies where the combined megawatt (MW) loss exceeds its most severe single contingency and that are defined as a single Balancing Contingency Event or (2) multiple Balancing Contingency Events within the sum of the time periods defined by the Contingency Event Recovery Period and Contingency Reserve Restoration Period whose combined magnitude exceeds the

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time that the resource output begins to decline within the first one-minute interval of a Reportable Balancing Contingency Event, and extends for fifteen minutes thereafter." *Id.* at 32.

[16] *Id.* at 4.

Responsible Entity's most severe single contingency.

10. Proposed Requirement R2 provides that each responsible entity:

> shall develop, review and maintain annually, and implement an Operating Process as part of its Operating Plan to determine its Most Severe Single Contingency and to make preparations to have Contingency Reserve equal to, or greater than the Responsible Entity's Most Severe Single Contingency available for maintaining system reliability.

NERC explains that Requirement R2 requires responsible entities to demonstrate that their process for calculating their most severe single contingency "surveys all contingencies, including single points of failure, to identify the event that would cause the greatest loss of resource output used by the [reserve sharing group or balancing authority] to meet Firm Demand."[17] NERC further states that Requirement R2 supports Requirements R1 and R3 in proposed Reliability Standard BAL-002-2 "as these requirements rely on proper calculation of [most severe single contingency]."[18]

11. Proposed Requirement R3 provides that "each Responsible Entity, following a Reportable Balancing Contingency Event, shall restore its Contingency Reserve to at least its Most Severe Single Contingency, before the end of the Contingency Reserve Restoration Period [90 minutes], but any Balancing Contingency Event that occurs before the end of a Contingency Reserve Restoration Period resets the beginning of the

[17] *Id.* at 25.

[18] *Id.* NERC provides examples of how responsible entities may calculate the most severe single contingency in the petition. *See* NERC Petition, Ex. B (Calculating Most Severe Single Contingency).

Contingency Event Recovery Period."

12. NERC explains that the revised language in the consolidated requirements in proposed Reliability Standard BAL-002-2 will improve efficiency and clarity by removing "unnecessary entities from compliance to capture only those entities that are vital for reliability."[19] NERC states that the proposed new definitions for Balancing Contingency Event and Reportable Balancing Contingency Event more clearly identify the types of events that cause frequency deviations necessitating action under the proposed Reliability Standard and provide additional detail regarding the types of resources that may be identified as contingency reserves. Furthermore, NERC states that proposed Reliability Standard BAL-002-2 "ensures objectivity of the reserve measurement process by guaranteeing a Commission-sanctioned continent-wide reserve policy," and therefore satisfies an outstanding Order No. 693 directive for uniform elements, definitions and requirements for a continent-wide contingency reserve policy.[20] Finally, NERC states that the proposed revised definition of Contingency Reserves "improves the existing definition by addressing a Commission directive in Order No. 693 to allow demand side management to be used as a resource for contingency reserve when necessary."[21]

13. NERC submitted proposed violation risk factors and violation severity levels for

[19] NERC Petition at 14.

[20] *Id.*

[21] *Id.* at 33.

each requirement of the proposed Reliability Standard and an implementation plan and effective dates. NERC states that these proposals were developed and reviewed for consistency with NERC and Commission guidelines. NERC proposes an effective date for the proposed Reliability Standard that is the first day of the first calendar quarter that is six months after the date of Commission approval. NERC explains that the proposed implementation date will allow entities to make necessary modifications to existing software programs to ensure compliance.[22]

14. On February 12, 2016, NERC submitted a supplemental filing to clarify a statement in the petition that proposed Reliability Standard BAL-002-2 would operate in conjunction with Reliability Standard TOP-007-0 to control system frequency by addressing transmission line loading in the event of a transmission overload. NERC explains that, while Reliability Standard TOP-007-0 will be retired on April 1, 2017, "the obligations related to [transmission line loading] under TOP-007-0 will be covered by Commission-approved TOP-001-3, EOP-003-2, IRO-009-2, and IRO-008-2 . . . by requiring relevant functional entities to communicate [Interconnection Reliability Operating Limits (IROL)] and [System Operating Limits (SOL)] exceedances so that the [reliability coordinator] can direct appropriate corrective action to mitigate or prevent those events."[23]

[22] *Id.* Ex. D (Implementation Plan) at 3.

[23] NERC February 12, 2016 Supplemental Filing at 2-3.

15. On March 31, 2016, NERC submitted a second supplemental filing to "further clarify the extent to which BAL-002-2 interacts with other Commission-approved Reliability Standards to promote Bulk Power System reliability…[and support] the overarching policy objective reflected in the stated purpose of Reliability Standard BAL-002-2."[24] In its filing, NERC expands upon the explanation in the petition regarding how an "integrated" and "coordinated suite of Reliability Standards" (BAL-001-2, BAL-003-1, TOP-007-0, EOP-002-3, EOP-011-1, IRO-008-2, and IRO-009-2) will apply to events causing MW losses above a responsible entity's most severe single contingency, and how those other Reliability Standards are better designed to manage the greater risks created by such events.[25]

II. Discussion

16. Pursuant to FPA section 215(d)(2), we propose to approve Reliability Standard BAL-002-2 as just, reasonable, not unduly discriminatory or preferential, and in the public interest. We also propose to approve NERC's eight new and revised proposed definitions and, with certain proposed modifications, the proposed violation risk factor and violation severity level assignments. In addition, we propose to approve NERC's implementation plan, in which NERC proposes an effective date of the first day of the

[24] NERC March 31, 2016 Supplemental Filing at 1, 5.

[25] *Id.* at 2-5.

first calendar quarter, six months after the date of Commission approval, and the retirement of currently-effective BAL-002-1 immediately before that date.[26]

17. The purpose of proposed Reliability Standard BAL-002-2 is to ensure that balancing authorities and reserve sharing groups balance resources and demand and return their ACE to defined values following a Reportable Balancing Contingency Event. We agree with NERC that it is essential for grid reliability for responsible entities to balance resources and demand, and restore system frequency, to recover from a system event, and that they maintain reserves necessary to replace capacity and energy lost due to generation or transmission outages. Proposed Reliability Standard BAL-002-2 improves upon currently-effective Reliability Standard BAL-002-1 by consolidating the number of requirements to streamline and clarify the obligations related to achieving these goals.

18. We believe that proposed BAL-002-2 satisfies the Order No. 693 directive that NERC develop a continent-wide contingency reserve policy.[27] Further, we agree with NERC that, in addition to the proposed Reliability Standard, the development of a continent-wide contingency reserve policy includes revisions to Reliability Standard BAL-001-1a (superseded by BAL-001-1) (Real Power Balancing Control

[26] NERC Petition, Ex. D (Implementation Plan) at 3.

[27] Order No. 693, FERC Stats. & Regs ¶ 31,242 at PP 340, 341 and 356.

Performance).[28] When approving Reliability Standard BAL-002-0 in Order No. 693, the Commission directed the ERO to develop modifications to Reliability Standard BAL-002-0 to include a requirement that explicitly provides that demand side management may be used as a resource for contingency reserves.[29] NERC states that the "proposed definition of Contingency Reserve improves the existing definition by addressing a Commission directive in Order No. 693 to allow demand side management to be used as a resource for contingency reserve when necessary."[30] Further, NERC asserts that the drafting team elected to expand the definition of contingency reserve to explicitly include capacity associated with demand side management.[31] However, the proposed definition does not include the NERC-defined term Demand-Side Management.[32] The Commission seeks comment on whether the proposed definition of contingency reserve should include the NERC-defined term Demand-Side Management for better clarity.

19. In addition to proposing to approve Reliability Standard BAL-002-2, the

[28] NERC Petition at 9.

[29] Order No. 693, FERC Stats. & Regs. ¶ 31,242 at PP 330, 335 and 356.

[30] NERC Petition at 33.

[31] NERC Petition, Ex. E (BAL-002-2 Background Document) at 6.

[32] The NERC Glossary currently defines Demand-Side Management as "the term for all activities or programs undertaken by Load Serving Entity or its customers to influence the amount or timing of electricity they use." NERC Glossary of Terms Used in NERC Reliability Standards at 35 (updated April 20, 2016). As of July 1, 2016, the new definition of Demand-Side Management will be: "All activities or programs undertaken by any applicable entity to achieve a reduction in Demand." *Id.*

Commission, pursuant to section 215(d)(5) of the FPA, proposes to direct NERC to develop modifications regarding the 15-minute ACE recovery period in Requirement R1 and the 90-minute Contingency Reserve Restoration Period in Requirement R3 under certain circumstances. We also propose to direct NERC to develop a new or modified Reliability Standard that addresses the reliability impact of megawatt losses above a responsible entity's most severe single contingency, because "recovery of ACE within a specified time period and restoration of Contingency Reserves due to unlikely events above a responsible entity's most severe single contingency is not within the scope of proposed Reliability Standard BAL-002-2."[33]

20. The Commission seeks comment on the following issues discussed below: (1) the 15-minute ACE recovery period; (2) the 90-minute Contingency Reserve Restoration Period; (3) the exclusion of losses above the most severe single contingency in the proposed definition of Reportable Balancing Contingency Event; and (4) NERC's proposal to reduce from High to Medium the violation risk factor for proposed Requirements R1 and R2.

A. The 15-Minute ACE Recovery Period

21. Proposed Reliability Standard BAL-002-2, Requirement R1 obligates a balancing authority or reserve sharing group that experience a Reportable Balancing Contingency Event to return its Reporting ACE to pre-defined values within the

[33] NERC Petition at 14-15.

15-minute Contingency Event Recovery Period. Proposed Requirement R1, Part 1.3.1 provides an "exemption" from the 15-minute ACE recovery period based upon the occurrence of a reliability coordinator-declared Energy Emergency Alert level and the depletion of the entity's contingency reserves to below its most severe single contingency to mitigate the operating emergency. NERC states that this exemption "eliminates the existing conflict with EOP-011-1, as it removes undefined auditor discretion when assessing compliance and allows the responsible entity flexibility to maintain service to load while managing reliability."[34] Further, NERC explains that this exemption does not eliminate an entity's obligation to respond to a Reportable Balancing Contingency Event, but rather it will "simply allow more time to return the Reporting ACE to the defined limits than would otherwise be allowed."[35] The proposed Reliability Standard does not expressly provide a definitive and enforceable deadline for ACE recovery under these circumstances.

22. In proposing to approve Reliability Standard BAL-002-2, we agree that NERC's proposal clarifies the obligations imposed on responsible entities and is therefore an improvement on currently-effective Reliability Standard BAL-002-1. Furthermore, Proposed Reliability Standard BAL-002-2 improves on the currently effective BAL-002-1 by obligating the responsible entities to accurately calculate most severe

[34] NERC Petition at 22.

[35] *Id.* at 24.

single contingency according to system models maintained by the balancing authority and reserve sharing groups. NERC's explanation for the relief from the 15-minute ACE recovery period raises concerns, however, because it is unclear how or when an entity will prepare for a second contingency during the indeterminate extension of the 15-minute ACE recovery period that proposed Requirement R1, Part 1.3 permits. A balancing authority that is operating out-of-balance for an extended period of time is "leaning on the system" by relying on external resources to meet its obligations and could affect other entities within an Interconnection, particularly if another entity is reacting to a grid event while unaware that the first entity has not restored its ACE. Therefore, while an extension of the 15-minute ACE recovery period may be appropriate under certain emergency conditions, we believe that the reliability coordinator should make that decision rather than an individual balancing authority or reserve sharing group. With a wide-area view, the reliability coordinator has the authority, with more or better information and objectivity, to make the decision whether to extend the ACE recovery period after an entity has met the criteria described in Requirement R1, Part 1.3.1. In other words, a reliability coordinator's extension of the 15-minute ACE recovery period may be appropriate based on all of the circumstances, if an entity has met the criteria in Requirement R1, Part 1.3.1.

23. NERC suggests that reliability coordinator approval of an extension of the 15-minute ACE recovery period is redundant because the reliability coordinator is involved in the creation of balancing authority Operating Plans pursuant to Reliability

Standard EOP-011-1, which already requires a balancing authority to communicate with its reliability coordinator.[36] However, there is currently no express requirement that the reliability coordinator must make or approve the decision to extend the 15-minute ACE recovery period. Further, while Reliability Standard EOP-011-1, Requirement R3, requires the reliability coordinator to review balancing authority Operating Plans and notify a balancing authority of any "reliability risks" the reliability coordinator may identify with a time frame for the resubmittal of revised Operating Plans, that Reliability Standard does not require reliability coordinator approval of Operating Plans.

24. Accordingly, the Commission proposes to direct NERC to develop modifications to Reliability Standard BAL-002-2 that would require Reporting ACE recovery within the 15-minute Contingency Event Recovery Period unless the relevant reliability coordinator expressly authorizes an extension of the 15-minute ACE recovery period after the balancing authority has met the criteria described in Requirement R1, Part 1.3.1. Additionally, the Commission's proposal would include modifying the standard to identify the reliability coordinator as an Applicable Entity. The Commission seeks comment on this proposal.

B. The 90-Minute Contingency Reserve Restoration Period

25. Proposed Reliability Standard BAL-002-2, Requirement R3 requires a balancing authority or reserve sharing group to restore its contingency reserves to at least its most severe single contingency before the end of the Contingency Reserve Restoration Period,

[36] *Id.* at 23.

which NERC proposes to define as "a period not exceeding 90 minutes following the end of the Contingency Event Recovery Period."[37] Requirement R3 further states that "any Balancing Contingency Event that occurs before the end of a Contingency Reserve Restoration Period resets the beginning of the Contingency Event Recovery Period."[38] Under this approach, a second contingency "resets" this 90-minute restoration window, regardless of the amount of the megawatt loss resulting from that event.

26. NERC asserts that the 90-minute contingency restoration period "is just and reasonable by providing adequate opportunity for a responsible entity to recover from an

[37] NERC Petition, Ex. D (Implementation Plan). The 90-minute contingency reserve restoration period begins after the end of the 15-minute ACE restoration period under Requirement R1. Accordingly, responsible entities must restore contingency reserves within 105 minutes of the occurrence of a Reportable Balancing Contingency Event to comply with Requirement R3.

[38] Balancing Contingency Event means: "Any single event described in Subsections (A), (B), or (C) below, or any series of such otherwise single events, with each separated from the next by one minute or less.

> A. Sudden loss of generation:
> a. Due to
> i. unit tripping,
> ii. loss of generator Facility resulting in isolation of the generator from the Bulk Electric System or from the responsible entity's System, or
> iii. sudden unplanned outage of transmission Facility;
> b. And, that causes an unexpected change to the responsible entity's ACE;
> B. Sudden loss of an import, due to unplanned outage of transmission equipment that causes an unexpected imbalance between generation and Demand on the Interconnection.
> C. Sudden restoration of a Demand that was used as a resource that causes an unexpected change to the responsible entity's ACE. NERC Petition Ex. D."

event while also maintaining reliability and recovery of reserves in a timely manner."[39] Further, NERC states that the "reset" for a Balancing Contingency Event provides "time and flexibility for an entity's ongoing recovery," and is intended to accommodate the "heightened sensitivities applicable during such a Contingency Reserve Restoration Period."[40] NERC explains that the "'reset' avoids punishing a responsible entity for an unexpected event, occurring within [sic] Contingency Restoration Period, which may make it infeasible to fully restore the requisite level of Contingency Reserves as intended."[41]

27. We agree with NERC that a "reset" of the Contingency Reserve Restoration Period may be appropriate in some instances. For example, a Balancing Contingency Event involving substantial megawatt loss that occurs during the recovery period following a Reportable Balancing Contingency Event may make it infeasible to fully restore the contingency reserves as originally planned. Proposed Reliability Standard BAL-002-2 Requirement R3 improves on the currently-effective BAL-002-1 by requiring the balancing authority or reserve sharing group to restore its contingency reserves to "at least its MSSC" following a reportable balancing contingency event. However, Requirement R3 potentially allows unlimited "resets" of the 90-minute restoration period, even for insignificant megawatt losses from a Balancing Contingency Event that occur

[39] NERC Petition at 26.

[40] *Id.* at 27.

[41] *Id.*

after the initial Reportable Balancing Contingency Event.

28. NERC explains that responsible entities need relief from the loss of any additional megawatts above those resulting from a Reportable Balancing Contingency Event because "this compounding loss inevitably increases the total recovery necessary to replenish the reserves while also meeting current demand."[42] However, while megawatt losses occurring during the Contingency Reserve Restoration Period that qualify as a Reportable Balancing Contingency Event could reasonably justify an extension of the 90-minute Contingency Reserve Restoration Period, there is less need for a Balancing Contingency Event, which could involve an insignificant loss of megawatts, to result automatically in a resetting of the time period. Under such circumstances, balancing authorities and reserve sharing groups should be required to restore the initial megawatt losses associated with the Reportable Balancing Contingency Event within the 90-minute restoration period, but could be allowed to "credit" megawatt losses from the Balancing Contingency Event, and have an additional 90 minutes to restore those losses.[43] This would prevent the possibility of multiple resets that could result in entities not maintaining sufficient contingency reserves for long periods of time.

29. The Commission proposes to direct that NERC develop modifications to

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[42] *Id.*

[43] For example, two generation units are lost, one of 900 MW (a Reportable Balancing Contingency Event) and another of 200 MW (a Balancing Contingency Event) 16 minutes later. Because of this second 200 MW loss, the balancing authority would be required to restore its contingency reserves to 700 MW (900 MW less the 200 MW Balancing Contingency Event) within the 90-minute contingency restoration period.

Reliability Standard BAL-002-2 to eliminate the potential for unlimited resets and ensure that contingency reserves must be restored within the 90-minute Contingency Reserve Restoration Period. One possible approach would be to give a balancing authority or reserve sharing group "credits" for megawatt losses resulting from Balancing Contingency Events during the 90-minute Contingency Reserve Restoration Period and allow an additional 90 minutes to restore reserves associated with those megawatt losses, if necessary. The Commission seeks comment on this proposal.

C. Exclusion of Megawatt Losses Above the Most Severe Single Contingency

30. NERC proposes to define Reportable Balancing Contingency Event as:

> [a]ny Balancing Contingency Event occurring within a one-minute interval of an initial sudden decline in ACE based on EMS scan rate data that results in a loss of MW output less than or equal to the [most severe single contingency], and greater than or equal to the lesser amount of: (i) 80% of the [most severe single contingency] … Prior to any given calendar quarter, the 80% threshold may be reduced by the responsible entity upon written notification to the Regional Entity.

NERC states that this definition "provides the scope of obligations required under Requirements R1 and R3 of BAL-002-2 [and] impose obligations on responsible entities to take certain recovery actions upon the occurrence of a Reportable Balancing Contingency Event to sustain Reporting ACE and adequate levels of Contingency Reserves."[44]

31. NERC's proposed definition would limit balancing authority and reserve sharing group responsibility to megawatt losses between 80 percent and 100 percent of their most

[44] NERC Petition at 30-31and Ex. D (Implementation Plan).

severe single contingency that occur within a one minute interval. As NERC explains, if a balancing authority has a most severe single contingency of 1000 megawatts and a generation unit with a capacity of 850 megawatts is lost, this system event is within the scope of proposed Reliability Standard BAL-002-2 because the loss is greater than 80 percent of, but does not exceed, the most severe single contingency. NERC contrasts that situation with the example of a balancing authority's loss of two generation units, one of 750 megawatts and another of 300 megawatts within 60 seconds of one another. The total generation loss of 1050 megawatts in this example is exempt from proposed Reliability Standard BAL-002-2 because the total loss resulting from the two events, which are aggregated because both events occurred within one minute of each other, is greater than the balancing authority's most severe single contingency of 1000 megawatts.[45]

32. NERC explains that events causing megawatt losses above a balancing authority's or reserve sharing group's most severe single contingency are not within the scope of proposed Reliability Standard BAL-002-2, and therefore those megawatt losses are not subject to the 15-minute ACE recovery period or the 90-minute Contingency Reserve

[45] *See* NERC Petition, Ex. A (Examples of Reportable Balancing Contingency Events).

Restoration Period.[46] Instead, balancing authorities and reserve sharing groups must respond to these large events under the suite of related Reliability Standards mentioned above: BAL-001-2, BAL-3-1, TOP-007-0, EOP-002-3, EOP-011-1, IRO-008-2, and IRO-009-2. According to NERC, "this integrated and coordinated approach would ensure reliability while also avoiding any gap in coverage and providing means to address complex issues arising during events that exceed MSSC."[47]

33. NERC's proposed limitation on the scope of proposed Reliability Standard BAL-002-2 raises questions, particularly NERC's assumption that megawatt exceedances above the most severe single contingency, however small, often or always will result in "complex issues." We recognize that in extreme megawatt loss scenarios triggering energy emergencies, Reliability Standard EOP-011-1 and the broader suite of Reliability Standards NERC mentions could provide appropriate reliability protection when proposed Reliability Standard BAL-002-2 would not apply. However, a reliability gap may exist for megawatt exceedances of the most severe single contingency that do not cause energy emergencies or otherwise clearly implicate the other Reliability Standards cited by NERC. Our concern is that unless this gap is addressed, the potential for

[46] NERC states that between 2006 and 2011, ninety disturbance events exceeded the most severe single contingency, with no year experiencing more than 29 events. According to NERC, "evaluation of this data illustrates that events greater than MSSC occur very infrequently." NERC March 31, 2016 Supplemental Filing at 3, n.5, citing the *2012 State of Reliability* (May 2012) accessible online at http://www.nerc.com/files/2012_sor.pdf.

[47] NERC Petition at 15.

balancing authorities to lean on the Interconnection by relying on external resources for an indeterminate period exists.

34. The Commission seeks comment from NERC and other entities on how to address that gap and whether to impose a reasonable obligation for balancing authorities and reserve sharing groups to address scenarios involving megawatt losses above the most severe single contingency that do not cause energy emergencies. Based on the comments, the Commission may direct that NERC develop a new or modified Reliability Standard to address that reliability gap.

D. NERC's Proposed Violation Risk Factor for Requirements R1 and R2

35. NERC proposes a "medium" violation risk factor for each requirement of proposed Reliability Standard BAL-002-2. Currently-effective Reliability Standard BAL-002-1 assigns a "high" violation risk factor for its Requirements R3 and R3.1, which NERC explains are analogous to proposed Requirements R1 and R2 in the proposed Reliability Standard.[48] We do not believe that NERC adequately justifies lowering the assignment of the violation risk factor for proposed Requirements R1 and R2 from high to medium. Proposed Requirement R1 requires a balancing authority or reserve sharing group to deploy contingency reserves in response to all Reportable Balancing Contingency Events as the means for recovering Reporting ACE. Proposed Requirement R2 requires a balancing authority or reserve sharing group to develop,

[48] NERC Petition, Ex. I (Mapping Document for BAL-002-2).

review and maintain a process within its Operating Plans for determining its most severe single contingency and to prepare to have contingency reserves equal to, or greater than, its most severe single contingency.

36. NERC provides insufficient support for the proposed violation risk factor for proposed Requirements R1 and R2. In justifying the assignment of a medium violation risk factor. NERC asserts, without explanation, that a medium violation risk factor is "consistent with other reliability standards (i.e., BAL-001-2, BAL-003-1)."[49] NERC also contends, without explanation, that proposed Requirement R3 is similar in concept to the current enforceable BAL-001-0.1a standard Requirements R1 and R2, which have an approved Medium [violation risk factor], and approved reliability standards BAL-001-1 and BAL-003-1.[50] The conclusory statements in NERC's petition regarding the alleged similarities between proposed Requirements R1 and R2 and other Reliability Standards does not adequately explain the alleged bases for reducing the violation risk factor for Requirements R1 and R2 from the analogous Requirement R3 in the currently-effective Reliability Standard.

37. NERC further states that while a violation of proposed Requirements R1 or R2 could directly affect the electrical state or capability of the bulk electric system, it "would unlikely result in the Bulk Electric System instability, separation or cascading failures

[49] NERC Petition, Ex. G (Analysis of Violation Risk Factors and Violation Severity Levels) at 4.

[50] *Id.*

since this requirement is an after-the-fact calculation, not performed in Real-time."[51] We believe this to be an inadequate justification for lowering the violation risk factors for proposed Requirements R1 and R2. While a calculation of how far out of compliance may occur after the fact, the issue is the risk resulting from a failure to meet the performance set forth in the requirement in real time. With regard to proposed Requirement R2 requiring responsible entities to have a process for determining their most severe single contingency, NERC itself states that "proper calculation of MSSC is critical for reliability."[52]

38. Accordingly, we propose to direct that NERC assign a high violation risk factor to proposed Reliability Standard BAL-002-2, Requirements R1 and R2. We seek comment on this proposal.

III. Information Collection Statement

39. The Office of Management and Budget (OMB) regulations require that OMB approve certain reporting and recordkeeping (collections of information) imposed by an agency.[53] Upon approval of a collection(s) of information, OMB will assign an OMB control number and expiration date. Respondents subject to the filing requirements of this rule will not be penalized for failing to respond to these collections of information

[51] *Id.* Ex. G (Analysis of Violation Risk Factors and Violation Severity Levels) at 3-4.

[52] NERC March 31, 2016 Supplemental Filing at 3.

[53] 5 CFR 1320.11.

unless the collections of information display a valid OMB control number.

40. The Commission is submitting these reporting and recordkeeping requirements to OMB for its review and approval under section 3507(d) of the Paper Reduction Act of 1995, 44 U.S.C. 3507(d) (2012). Comments are solicited on the Commission's need for this information, whether the information will have practical utility, the accuracy of the provided burden estimate, ways to enhance the quality, utility, and clarity of the information to be collected, and any suggested methods for minimizing the respondent's burden, including the use of automated information techniques.

41. This Notice of Proposed Rulemaking proposes to approve revisions to Reliability Standard BAL-002-2. NERC states in its petition that the proposed Reliability Standard applies to balancing authorities and reserve sharing groups, and is designed to ensure that these entities are able to recover from system contingencies by deploying adequate reserves to return their ACE to defined values and by replacing the capacity and energy lost due to generation or transmission equipment outages. The Commission also proposes to approve NERC's seven proposed new definitions and one proposed revised definition, and the retirement of currently-effective Reliability Standard BAL-002-1 immediately prior to the effective date of BAL-002-1.

42. Public Reporting Burden: Our estimate below regarding the number of respondents is based on the NERC Compliance Registry as of April 15, 2016. According to the NERC Compliance Registry, there are 70 balancing authorities in the Eastern Interconnection, 34 balancing authorities in the Western Interconnection and one balancing authority in the Electric Reliability Council of Texas (ERCOT). The

Commission bases individual burden estimates on the time needed for balancing authorities and reserve sharing groups to maintain annually, the operating process and operating plan that are required in the Reliability Standard. These burden estimates are consistent with estimates for similar tasks in other Commission-approved Reliability Standards. The following estimates relate to the requirements for this Notice of Proposed Rulemaking in Docket No. RM16-7-000.

RM16-7-000 NOPR (BAL-002-2: Disturbance Control Standard—Contingency Reserve for Recovery from a Balancing Contingency Event) [54]						
	Number of Respondents (1)	**Annual Number of Responses per Respondent (2)**	**Total Number of Responses (1)*(2)=(3)**	**Average Burden Hours & Cost Per Response [55] (4)**	**Total Annual Burden Hours & Total Annual Cost (3)*(4)=(5)**	**Cost per Respondent ($) (5)÷(1)**
BA/RSG:[56] Develop and Maintain annually, Operating Process and Operating Plans	105	1	105	8 $773	840 $81,119	$773
BA/RSG: Record Retention[57]	105	1	105	4 $112	420 $11,760	$112
TOTAL			**210**		**1.260** **$92,879**	**$885**

[54] Proposed Reliability Standard BAL-002-2 applies to balancing authorities and reserve sharing groups. However, the burden associated with the balancing authorities complying with Requirements R1and R3 is not included within this table because the Commission accounted for it under Commission-approved Reliability Standard BAL-002-1.

[55] The estimated hourly cost (salary plus benefits) of $96.57 is an average based on Bureau of Labor Statistics (BLS) information (http://www.bls.gov/oes/current/naics2_22.htm) for an electrical engineer ($64.20/hour) and a lawyer ($128.94).

[56] BA=Balancing Authority; RSG=Reserve Sharing Group.

[57] $28/hour, based on a Commission staff study of record retention burden cost.

Title: FERC-725R, Mandatory Reliability Standard BAL-002-2.

Action: Proposed Collection of Information.

OMB Control No.: 1902-0268.

Respondents: Businesses or other for-profit institutions; not-for-profit institutions.

Frequency of Responses: On Occasion.

Necessity of the Information: This proposed rule proposes to approve Reliability Standard BAL-002-2, which is designed to ensure that a responsible entity, either a balancing authority or reserve sharing group, is able to recover from system contingencies by deploying adequate reserves to return their ACE to defined values and replacing the capacity and energy lost due to generation or transmission equipment outages. Proposed Reliability Standard BAL-002-2, Requirement R1 requires a responsible entity, either a balancing authority or reserve sharing group, experiencing a Reportable Balancing Contingency Event to deploy its contingency reserves to recover its ACE to certain prescribed values within the Contingency Event Recovery Period of 15 minutes. Proposed Requirement R2 requires a balancing authority or reserve sharing group to develop, review and maintain a process within its Operating Plans for determining its most severe single contingency and prepare to have contingency reserves equal to, or greater than, its most severe single contingency. Proposed Requirement R3 provides that, following a Reportable Balancing Contingency Event, the responsible entity shall restore its Contingency Reserve to at least its most severe single contingency, before the end of the Contingency Reserve Restoration Period of 90 minutes.

Internal Review: The Commission reviewed the proposed Reliability Standard and made a determination that its action is necessary to implement section 215 of the FPA. These requirements, if accepted, should conform to the Commission's expectation for generation and demand balance throughout the Eastern and Western Interconnections as well as within the ERCOT Region.

43. Interested persons may obtain information on the reporting requirements by contacting the following: Federal Energy Regulatory Commission, 888 First Street, NE Washington, DC 20426 [Attention: Ellen Brown, Office of the Executive Director, e-mail: DataClearance@ferc.gov, phone: (202) 502-8663, fax: (202) 273-0873].

44. For submitting comments concerning the collection(s) of information and the associated burden estimate(s), please send your comments to the Commission and to the Office of Management and Budget, Office of Information and Regulatory Affairs, Washington, DC 20503 [Attention: Desk Officer for the Federal Energy Regulatory Commission, phone: (202) 395-4638, fax: (202) 395-7285]. For security reasons, comments to OMB should be submitted by e-mail to: oira_submission@omb.eop.gov. Comments submitted to OMB should include FERC-725R and Docket Number RM16- 7-000.

IV. Environmental Analysis

45. The Commission is required to prepare an Environmental Assessment or an Environmental Impact Statement for any action that may have a significant adverse effect

on the human environment.[58] The Commission has categorically excluded certain actions from this requirement as not having a significant effect on the human environment. Included in the exclusion are rules that are clarifying, corrective, or procedural or that do not substantially change the effect of the regulations being amended.[59] The actions proposed here fall within this categorical exclusion in the Commission's regulations.

V. Regulatory Flexibility Act

46. The Regulatory Flexibility Act of 1980 (RFA)[60] generally requires a description and analysis of proposed rules that will have significant economic impact on a substantial number of small entities. As shown in the information collection section, the proposed Reliability Standard applies to 105 entities. Comparison of the applicable entities with the Commission's small business data indicates that approximately 23[61] are small business entities.[62] Of these, the Commission estimates that approximately five percent,

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[58] *Regulations Implementing the National Environmental Policy Act of 1969*, Order No. 486, FERC Stats. & Regs. ¶ 30,783 (1987).

[59] 18 CFR 380.4(a)(2)(ii).

[60] 5 U.S.C. 601-612.

[61] 21.73 percent of the total number of affected entities.

[62] The Small Business Administration sets the threshold for what constitutes a small business. Public utilities may fall under one of several different categories, each with a size threshold based on the company's number of employees, including affiliates, the parent company, and subsidiaries. For the analysis in this Final Rule, we are using a 500 employee threshold for each affected entity. Each entity is classified as Electric Bulk Power Transmission and Control (NAICS code 221121).

or one of these 23 small entities, will be affected by the new requirements of the proposed Reliability Standard.

47. The Commission estimates that the small entities affected by proposed Reliability Standard BAL-002-2 will incur an annual compliance cost of up to $20,355 (i.e., the cost of developing, and maintaining annually operating process and operating plans), resulting in a cost of approximately $885 per balancing authority and/or reserve sharing group. These costs represent an estimate of the costs a small entity could incur if the entity is identified as an applicable entity. The Commission does not consider the estimated cost per small entity to have a significant economic impact on a substantial number of small entities. Accordingly, the Commission certifies that this NOPR will not have a significant economic impact on a substantial number of small entities.

VI. Comment Procedures

48. The Commission invites interested persons to submit comments on the matters and issues proposed in this notice to be adopted, including any related matters or alternative proposals that commenters may wish to discuss. Comments are due [**INSERT DATE 60 days after publication in the FEDERAL REGISTER**]. Comments must refer to Docket No. RM16-7-000, and must include the commenter's name, the organization they represent, if applicable, and their address in their comments.

49. The Commission encourages comments to be filed electronically via the eFiling link on the Commission's web site at http://www.ferc.gov. The Commission accepts most standard word processing formats. Documents created electronically using word processing software should be filed in native applications or print-to-PDF format and not

in a scanned format. Commenters filing electronically do not need to make a paper filing.

50. Commenters that are not able to file comments electronically must send an original of their comments to: Federal Energy Regulatory Commission, Secretary of the Commission, 888 First Street NE, Washington, DC 20426.

51. All comments will be placed in the Commission's public files and may be viewed, printed, or downloaded remotely as described in the Document Availability section below. Commenters on this proposal are not required to serve copies of their comments on other commenters.

VII. Document Availability

52. In addition to publishing the full text of this document in the Federal Register, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the Internet through the Commission's Home Page (http://www.ferc.gov) and in the Commission's Public Reference Room during normal business hours (8:30 a.m. to 5:00 p.m. Eastern time) at 888 First Street, NE, Room 2A, Washington, DC 20426.

53. From the Commission's Home Page on the Internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number of this document, excluding the last three digits, in the docket number field.

54. User assistance is available for eLibrary and the Commission's website during normal business hours from the Commission's Online Support at (202) 502-6652 (toll free at 1-866-208-3676) or e-mail at ferconlinesupport@ferc.gov, or the Public Reference Room at (202) 502-8371, TTY (202) 502-8659. E-mail the Public Reference Room at public.referenceroom@ferc.gov.

By direction of the Commission.

Issued: May 19, 2016

Nathaniel J. Davis, Sr.,
Deputy Secretary.

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