

**Note: an Interpretation cannot be used to change a standard.**

Request for an Interpretation of a Reliability Standard	
Date submitted:	September 2, 2009
Date accepted:	September 2, 2009
<b>Contact information for person requesting the interpretation:</b>	
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<b>Identify the standard that needs clarification:</b>	
Standard Number (include version number):	BAL-002-0
Standard Title:	Disturbance Control Performance
<b>Identify specifically what requirement needs clarification:</b>	
<b><u>Requirement Number and Text of Requirement:</u></b>	
<b>B. Requirements</b>	
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R4. A Balancing Authority or Reserve Sharing Group shall meet the Disturbance Recovery Criterion within the Disturbance Recovery Period for 100% of Reportable Disturbances. The Disturbance Recovery Criterion is:	
<p style="padding-left: 40px;">R4.1. A Balancing Authority shall return its ACE to zero if its ACE just prior to the Reportable Disturbance was positive or equal to zero. For negative initial ACE values just prior to the Disturbance, the Balancing Authority shall return ACE to its pre-Disturbance value.</p> <p style="padding-left: 40px;">R4.2. The default Disturbance Recovery Period is 15 minutes after the start of a Reportable Disturbance. This period may be adjusted to better suit the needs of an Interconnection based on analysis approved by the NERC Operating Committee.</p>	
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R5. Each Reserve Sharing Group shall comply with the DCS. A Reserve Sharing Group shall be considered in a Reportable Disturbance condition whenever a group member has experienced a Reportable Disturbance and calls for the activation of Contingency Reserves from one or more other group members. *** Compliance may be demonstrated by either	

of the following two methods:

R.5.1 The Reserve Sharing Group reviews group ACE (or equivalent) and demonstrates compliance to the DCS. To be in compliance, the group ACE (or its equivalent) must meet the Disturbance Recovery Criterion after the schedule change(s) related to reserve sharing have been fully implemented, and within the Disturbance Recovery Period.

or

R.5.2. The Reserve Sharing Group reviews each member's ACE in response to the activation of reserves. To be in compliance, a member's ACE (or its equivalent) must meet the Disturbance Recovery Criterion after the schedule change(s) related to reserve sharing have been fully implemented, and within the Disturbance Recovery Period.

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## D. Compliance

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### 1.4 Additional Compliance Information

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**Simultaneous Contingencies** – Multiple Contingencies occurring within one minute or less of each other shall be treated as a single Contingency. If the combined magnitude of the multiple Contingencies exceeds the most severe single Contingency, the loss shall be reported, but excluded from compliance evaluation.

**Multiple Contingencies within the Reportable Disturbance Period** – Additional Contingencies that occur after one minute of the start of a Reportable Disturbance but before the end of the Disturbance Recovery Period can be excluded from evaluation. The Balancing Authority or Reserve Sharing Group shall determine the DCS compliance of the initial Reportable Disturbance by performing a reasonable estimation of the response that would have occurred had the second and subsequent contingencies not occurred.

### Clarification needed:

The Northwest Power Pool Reserve Sharing Group respectfully requests clarification as to whether:

- (1) although a Disturbance<sup>1</sup> that exceeds the most severe single Contingency must be reported by the Balancing Authority or Reserve Sharing Group (as applicable), the Disturbance is excluded from compliance evaluation for the applicable Balancing Authority or Reserve Sharing Group;
- (2) with respect to either simultaneous Contingencies or non-simultaneous multiple Contingencies affecting a Reserve Sharing Group, the exclusion from compliance evaluation for Disturbances exceeding the most severe single Contingency applies both when (a) all Contingencies occur within a single Balancing Authority member of the Reserve Sharing Group and (b) different Balancing Authorities within the Reserve

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<sup>1</sup> Irrespective of cause, including a single event, simultaneous Contingencies, or non-simultaneous multiple Contingencies.

Sharing Group experience separate Contingencies that occur simultaneously, or non-simultaneously but before the end of the Disturbance Recovery Period following the first Reportable Disturbance; and

- (3) the meaning of the phrase “excluded from compliance evaluation” as used in Section 1.4 (“Additional Compliance Information”) of Part D of BAL-002-0 and for purposes of the preceding statements is that, with respect to Disturbances that exceed the most severe single Contingency for a Balancing Authority or Reserve Sharing Group (as applicable), a violation of BAL-002-0 does not occur even if ACE is not recovered within the Disturbance Recovery Period (15 minutes unless adjusted pursuant to BAL-002-0, R4.2).

**Identify the material impact associated with this interpretation:**

Clarification is needed to avoid applications of BAL-002-0 that would render the reserve requirement specified in R3.1 of BAL-002-0 (which calls for “enough Contingency Reserve to cover the most severe single Contingency”) meaningless. The intent of BAL-002-0 is that all Contingencies greater than or equal to 80% of the most severe single Contingency constitute “Reportable Disturbances.” See Section 1.4 of Part D of BAL-002-0 (where the “Additional Compliance Information” includes a definition of “Reportable Disturbance”).

If a Balancing Authority were to experience a Contingency below the Reportable Disturbance level, it would be expected to recover ACE within 15 minutes, even though the literal words of R4 of BAL-002-0 do not say this. Conversely, if a Balancing Authority were to experience a Disturbance five times greater than its most severe single Contingency, it would be required to report this Disturbance, but would not be required to recover ACE within 15 minutes following a Disturbance of this magnitude.

Any other interpretation would result in treating BAL-002-0 as if it required Balancing Authorities and Reserve Sharing Groups to recover ACE (to zero or pre-Disturbance levels, as applicable) within the 15-minute Disturbance Recovery Period without regard to Disturbance magnitude. This is inconsistent with (a) the reserve requirement specified in R3.1 of BAL-002-0, (b) the text of Section 1.4 of Part D of BAL-002-0, and (c) the documented history of the development of BAL-002-0 (see, e.g., Performance Standards Document, Version 3 (as accepted by NERC Resources Subcommittee on October 23, 2007), which provides in Section D, *Disturbance Control Standard, DCS*, that “An excludable disturbance is a disturbance whose magnitude was greater than the magnitude of the most severe single contingency.”)

Furthermore, lack of clarity on the interpretation of this standard potentially has significant financial and operational impacts on all Balancing Authorities and Reserve Sharing Groups. If the standard is interpreted to require that ACE be returned to zero even for a Disturbance that exceeds the most severe single Contingency, a Balancing Authority could be required to take drastic operational actions, even when other measures of system reliability (voltage stability, normal frequency, operation within system operating limits, etc.) indicate otherwise.

**Response:**

The Balancing Authority Controls Standard Drafting Team was originally assigned to provide

a response to the interpretation request. The original interpretation failed to achieve a two-thirds approval from the industry. NERC appointed a new IDT to develop this interpretation. On July 24, 2012, the team provided the following response to the questions raised:

**Question 1: Although a Disturbance<sup>2</sup> that exceeds the most severe single Contingency must be reported by the Balancing Authority or Reserve Sharing Group (as applicable), is the Disturbance excluded from compliance evaluation for the applicable Balancing Authority or Reserve Sharing Group?**

**Response:** The IDT agrees that the Disturbance would be excluded from compliance. The BAL-002 **Additional Compliance Information section** clearly states:

Simultaneous Contingencies – Multiple contingencies occurring within one minute or less of each other shall be treated as a single Contingency. If the combined magnitude of the multiple Contingencies exceeds the most severe single Contingency, the loss shall be reported, but excluded from compliance evaluation.

For clarity the IDT would like to explain the Team's basis concerning some of the terminology used.

**Most Severe Single Contingency (MSSC)** – this can be the loss of the BA's or RSG's single largest operating generator, or it can be a known common mode failure that causes more than one generator to fail when the contingency occurs; or it can be a firm transaction. Although Requirement R3.1 mandates an annual "review" that does not mean an annual value. Note that Requirement R3.1 determines a "prospective" MSSC. MSSC is a variable that the BA knows and operates to in real time. The largest operating generator is known and monitored by a BA. The largest known common mode failure is predefined for the BA; the largest single firm transaction is approved by the BA. Thus the BA knows its MSSC which can vary from hour to hour and minute to minute.

To be clear a BA is responsible for the MSSC at all times (the MSSC value at any given time may be more or less than the annually identified prospective MSSC).

An undefined "common mode" failure can occur but it is exempted from R4's requirement to meet the BA's or RSG's disturbance recovery criteria within the Disturbance Recovery Period. An undefined common mode failure (i.e. a disturbance that exceeds the MSSC) must be reported to allow the ERO to help ensure that it is not a continuing condition.

BAL-002 has two categories (1) Compliance and reporting (for Reportable Disturbances that must comply with the disturbance recovery criteria within the Disturbance Recovery Period) and (2) Reporting only (for specified disturbances and system conditions) events that are excluded from meeting Requirement R4.

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<sup>2</sup> Irrespective of cause, including a single event, simultaneous Contingencies, or non-simultaneous multiple Contingencies.

The **Compliance and reporting category** is designed to be used to accumulate all DCS events that are subject to compliance to BAL-002 Requirement R4 (i.e. recover ACE within 15 minutes). These include all single assets as well as all pre-defined common mode failures. The standard originally created  $R_i$  (the average percent recovery for a Reportable Disturbance) as a measure of the quarterly compliance for Reportable Disturbances. Where all events greater than 80% were mandatory to report and those less than 80% were permitted to be reported (thus encouraging reporting smaller events).

The **Reporting only category** is designed to track multiple contingency events that are not subject to Requirement R4. This category is designed to ensure that common mode (single point of failures) events are not missed. Thus if two or more contingencies repeatedly occur, the expectation was that the ERO would have the information to alert the BA that the two contingencies must be considered as a single event and thus considered as the MSSC.

The **Performance Standard Reference document** initially included with the DCS standard does states "Where RSGs exist, the Regional Reliability Council is to decide either to report on a BA basis or an RSG basis. If an RSG has dynamic membership then... required ...to report on a BA basis.

**Question 2: With respect to either simultaneous Contingencies or non-simultaneous multiple Contingencies affecting a Reserve Sharing Group, does the exclusion from compliance evaluation for Disturbances exceeding the most severe single Contingency apply both when (a) all Contingencies occur within a single Balancing Authority member of the Reserve Sharing Group and (b) different Balancing Authorities within the Reserve Sharing Group experience separate Contingencies that occur simultaneously, or non-simultaneously but before the end of the Disturbance Recovery Period following the first Reportable Disturbance?**

**Response:** Requirement R5 is directed to RSGs, where RSG is defined in the NERC Glossary as:

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

The standard provides flexibility to BAs regarding the use or non-use of RSGs (Requirement R1.1). Requirement R2 affords the members flexibility in how they organize themselves.

Requirement R1.1 allows, at the option of a BA, or RSG to take on all or part of the

responsibilities that BAL-002 places on a BA. However, Requirement R5 allows a BA to “call for activation” of reserves [aka dynamic allocation of membership] moreover, there is no ad hoc recognition of such an RSG’s multiple contingencies since a contingency in one BA may or not be referred to the RSG, and the simultaneous contingency in another BA is unknown.

The Technical Document does allow for a pre-acknowledged RSG to report on a composite basis. It can be interpreted that such a pre-acknowledged RSG entity assumes all of the obligations and rights afforded to a single BA and in that case such an RSG would be afforded the same Exclusions as the Exclusions afforded a BA.

In summary, the interpretation is as follows:

- The Standard was written to provide pre-acknowledged RSGs the same considerations as a single BA for purposes of exclusions from DCS compliance evaluation. Thus for a pre-acknowledged RSG the exclusion rules would be used in the same manner as they would be used for a single BA. This applies to both multiple contingencies occurring within one minute or less of each other being treated as a single Contingency and to Contingencies that occur after one minute of the start of a Reportable Disturbance but before the end of the Disturbance Recovery Period.

The standard, while recognizing dynamically allocated RSGs, does NOT provide the members of dynamically allocated RSGs exclusions from DCS compliance evaluation on an RSG basis. For members of dynamically allocated RSGs, the exclusions are provided only on a member BA by member BA basis.

**Question 3: Clarify the meaning of the phrase “excluded from compliance evaluation” as used in Section 1.4 (“Additional Compliance Information”) of Part D of BAL-002-0 and for purposes of the preceding statements, with respect to Disturbances that exceed the most severe single Contingency for a Balancing Authority or Reserve Sharing Group (as applicable), does BAL-002-0 require ACE to be recovered within the Disturbance Recovery Period (15 minutes unless adjusted pursuant to BAL-002-0, R4.2).**

Response: The **Additional Compliance Information section** clearly states:

**Simultaneous contingencies** – Multiple contingencies occurring within one minute or less of each other shall be treated as a single Contingency. If the combined magnitude of the multiple Contingencies exceeds the Most Severe Single Contingency, the loss shall be reported, but excluded from compliance evaluation.

Although Requirement R3 does mandate that a BA or RSG activate sufficient Contingency Reserves to comply with DCS for every Reportable Disturbance, there is no requirement to comply with or even report disturbances that are below the Reportable Disturbance level. The averaging obligation does incent calculation and reporting of such lesser events.

If a Balancing Authority were to experience a Disturbance five times greater than its most severe single Contingency, it would be required to report this Disturbance,

but would not be required to recover ACE within 15 minutes following a Disturbance of this magnitude.

An excludable disturbance is a disturbance whose magnitude was greater than the magnitude of the most severe single contingency. Any other interpretation would result in treating BAL-002-0 as if it required Balancing Authorities and Reserve Sharing Groups to recover ACE (to zero or pre-Disturbance levels, as applicable) within the 15-minute Disturbance Recovery Period without regard to Disturbance magnitude. This is inconsistent with (a) the reserve requirement specified in R3.1 of BAL-002-0, (b) the text of Section 1.4 of Part D of BAL-002-0, and (c) the documented history of the development of BAL-002-0 (*see, e.g.*, Performance Standards Document, Version 3 (as accepted by NERC Resources Subcommittee on October 23, 2007), which provides in Section D, *Disturbance Control Standard, DCS*, that "An excludable disturbance is a disturbance whose magnitude was greater than the magnitude of the most severe single contingency.")