NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

BES Notification Guideline

Guideline for Reviewing Self-Determined Notifications

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RELIABILITY | ACCOUNTABILITY




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Preface

The North American Electric Reliability Corporation's (NERC) mission is to ensure the reliability of the North American bulk power system. NERC is the electric reliability organization (ERO) certified by the Federal Energy Regulatory Commission (FERC) to establish and enforce Reliability Standards for the bulk power system (BPS). NERC develops and enforces Reliability Standards; assesses adequacy annually via a 10-year forecast and summer and winter forecasts; monitors the bulk power system; and educates, trains, and certifies industry personnel. ERO activities in Canada related to the reliability of the BPS are recognized and overseen by the appropriate governmental authorities in that country.[1]

NERC assesses and reports on the reliability and adequacy of the North American BPS, which is divided into eight Regional Entity areas, as shown on the map and table below. The users, owners, and operators of the BPS within these areas account for virtually all the electricity supplied in the United States, Canada, and a portion of Baja California Norte, Mexico.

NERC Regional Entities	
FRCC	Florida Reliability Coordinating Council
MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RFC	ReliabilityFirst
SERC	SERC Reliability Corporation
SPP-RE	Southwest Power Pool Regional Entity
TRE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

NERC Regional Entities Map

[1] As of June 18, 2007, FERC granted NERC the legal authority to enforce Reliability Standards with all U.S. users, owners, and operators of the Bulk-Power System and made compliance with those standards mandatory and enforceable. Equivalent relationships have been sought and for the most part realized in Canada and Mexico. Prior to adoption of §215 in the U.S., the provinces of Ontario (in 2002) and New Brunswick (in 2004) adopted all Reliability Standards that were approved by the NERC Board as mandatory and enforceable within their respective jurisdictions through market rules. Reliability legislation is in place or NERC has memoranda of understanding with provincial authorities in Ontario, New Brunswick, Nova Scotia, Québec, Manitoba, Saskatchewan, British Columbia and Alberta, and with the National Energy Board of Canada (NEB). NERC standards are mandatory and enforceable in Ontario and New Brunswick as a matter of provincial law. Manitoba has adopted legislation, and standards are mandatory there. In addition, NERC has been designated as the "electric reliability organization" under Alberta's Transportation Regulation, and certain Reliability Standards have been approved in that jurisdiction; others are pending. NERC standards are now mandatory in British Columbia and Nova Scotia. NERC and the Northeast Power Coordinating Council (NPCC) have been recognized as standards setting bodies by the Régie de l'énergie of Québec, and Québec has the framework in place for Reliability Standards to become mandatory. NEB has made Reliability Standards mandatory for international power lines. In Mexico, the Comisión Federal de Electricidad (CFE) has signed WECC's reliability management system agreement, which only applies to Baja California Norte.

Disclaimer

Regional Entities and NERC will use the BES Notification Review Guideline to assist in the review and concurrence with entities' notifications of self-determined Bulk Electric System (BES) inclusions and exclusions. This guidance document reflects the professional opinion of the Regional Entities and NERC, given in good faith for illustrative purposes only. This document is based on Order No. 773[2] and the December 13, 2013 *Petition of the North American Electric Reliability Corporation for Approval of Revisions to the Definition of 'Bulk Electric System' and Request for Expedited Action*.[3]

Applying this guideline document promotes consistent regional application of the BES definition and identification of the potential need for the regions to submit Exceptions Requests to include Elements excluded by self-determination.

[2] *Revisions to Electric Reliability Organization Definition of Bulk Electric System and Rules of Procedure*, Order No. 773, 141 FERC ¶ 61,236 (2012) (available at: http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order_Revisions_BES_2012.12.pdf); *order on reh'g*, Order No. 773-A, 143 FERC ¶ 61,053 (2013); *order denying reh'g*, 144 FERC ¶ 61,174 (2013).

[3] See: http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Petition%20for%20Approval%20of%20Revised%20Definition%20of%20BES_FINAL.pdf

Introduction

Background

On December 20, 2012, the Federal Energy Regulatory Commission ("FERC" or the "Commission") issued Order No. 773 approving Phase 1 modifications to the currently-effective NERC definition for BES which will become effective on July 1, 2014.[4] In Order 773, Paragraph 317, the Commission also determined that "registered entities are obligated to inform the Regional Entity of any self-determination that an element is no longer part of the bulk electric system" and that NERC is required to maintain a list of those elements excluded from the BES (either through application of the definition or through the BES Exception procedure):

> "We [the Commission] agree with NERC that registered entities are obligated to inform the Regional Entity of any self-determination that an element is no longer part of the bulk electric system. . . Thus, a registered entity that concludes that an element is no longer part of the bulk electric system must notify the Regional Entity of such change. . . Regardless of past practice, we find that such notification is a necessary feature of the changes being implemented by NERC... Further, the revised definition allows entities the discretion to "declassify" certain facilities as part of the bulk electric system, and NERC, Regional Entities and the Commission need notification of such instances to assure that the entities are appropriately implementing the revised definition."

For self-determination notifications, the NERC BESnet application[5] provides the functionality for entities to notify the Regional Entities of their self-determined BES inclusions and exclusions:

- Collection, in a common manner, of input from registered entities of the self-determination of Element(s) by application of the 'bright-line' BES definition (from the universe of Elements representing the delta between the current definition and the revised BES definition—this encompasses "I's," "E's," and any "other" differentiation in classification (e.g., Distribution Elements) arising from the revised definition);
- Notification that the applicable Elements that have been entered by a registered entity;
- Ability of Regional Entities and NERC to view the entry; and,
- Ability to indicate concurrence with the application of the BES definition by the Regional Entities and NERC.

[4] On December 13, 2013, NERC filed Phase 2 of the BES Definition with FERC.

[5] See: Provide link for the BESnet application when available.

Each Regional Entity needs to verify BES designations in its region based on application of the 'bright-line' BES definition using the process outlined in the *BES Definition Reference Document.*[6]

If a Regional Entity believes an Element should be designated as BES but has been excluded by an entity's' self-determined notification, the Regional Entity should submit a BES Exception 'inclusion' request for those Elements they believe should be designated as BES. According to Order No. 773-A, Paragraph 110[7]:

> "The Commission agrees with Snohomish that, in the absence of bad faith, if a registered entity applies the bulk electric system definition and determines that an element no longer qualifies as part of the bulk electric system, upon notifying the appropriate Regional Entity that the element is no longer part of the bulk electric system the element should not be treated as part of the bulk electric system unless NERC makes a contrary determination in the exception process. **If the Regional Entity disagrees with the classification of the element and believes the element is necessary for reliable operation, the Regional Entity should initiate an exception request to include the element in the bulk electric system.** If NERC agrees with the Regional Entity and determines that the element should be included in the bulk electric system, the registered entity should not be subject to retroactive liability for the time period the element was not included in the bulk electric system." (Emphasis *added*).

Entity self-determined notifications submitted in good faith will be accepted by the Regional Entities and NERC, in accordance with the "*BES Definition Reference Document"* Additional follow up with the entity will be required where proper application of the definition is in question.

Coordination with Registered Entities

Each Regional Entity is encouraged to actively work with their respective registered entities to achieve common understanding of the application of the "bright-line" BES definition and corresponding identification of the BES Elements, in order to minimize the potential number and extent of submitted BES Exceptions Requests.

Each asset owner and each Functional Entity owning or operating Facilities and Elements that have been newly-identified for inclusion in the BES should be encouraged to perform a gap analysis for both:

- Registration (and Certification, if applicable); and
- Compliance with applicable Reliability Standards.

[6] See: Provide link when document is posted

[7] See: http://www.ferc.gov/whats-new/comm-meet/2012/122012/E-5.pdf

The gap analysis should identify:

- Any additional Registrations and/or Certifications that are required due to the newly included Facilities and Elements (e.g., reliability functions for which the entity is not currently registered on the Compliance Registry but should be registered based on the newly-included Facilities and Elements); and

- Additional compliance obligations for the registered entity; i.e., the applicable Requirements of Reliability Standards with which the entity must now become compliant due to the inclusion of the new Facilities and Elements in the BES.

In Order No. 773, the Commission approved:

- NERC's revisions to its Rules of Procedure, which create an exception process to add elements to, or remove elements from, the definition of BES on a case-by-case basis;

- NERC's form entitled "Detailed Information to Support an Exception Request" that entities will use to support requests for exception from the BES definition; and

- NERC's implementation plan for the revised BES definition.

The Commission also approved the form "Detailed Information to Support an Exception Request" which has been incorporated into the NERC BESnet application.

The Regional Entities will review self-determination to verify that the BES definition has been correctly applied. NERC also reserves the right to review each self-determination.

Application of the BES Definition

As described in the *Petition of the North American Electric Reliability Corporation for Approval of Revisions to the Definition of 'Bulk Electric System' and Request for Expedited Action,* the proposed BES definition is generally applied in three steps, as discussed below.

STEP 1: CORE DEFINITION: The core definition is used to establish the bright line of 100 kV, the overall demarcation point between BES and Non-BES Elements. The core BES definition identifies the Real Power and Reactive Power resources connected at 100 kV or higher, as included in the BES. To fully appreciate the scope of the core definition, an understanding of the term "Element" is needed. "Element" is defined in the NERC Glossary as: "Any electrical device with terminals that may be connected to other electrical devices such as a generator, transformer, circuit breaker, bus section, or transmission line. An Element may be comprised of one or more components."

STEP 2: INCLUSIONS: This step involves applying the specific Inclusions and provides additional clarification for the purposes of identifying specific Elements that are included in the BES. The Inclusions address Transmission Elements and Real Power and Reactive Power resources with specific criteria to provide for a consistent determination of whether an Element is classified as BES or non-BES. There are five Inclusions in the definition. The facilities described in Inclusions I1, I2, I4, and I5 are each operated (if transformers – Inclusion I1) or connected (if generating resources, dispersed power producing resources or Reactive Power resources – Inclusions I2, I4 and I5) at or above the 100 kV threshold. Inclusion I3 encompasses Blackstart Resources identified in a Transmission Operator's restoration plan that are necessary for the reliable operation of the interconnected transmission system and should be included in the BES regardless of their size (MVA) or the voltage at which they are connected.

STEP 3: EXCLUSIONS: This step evaluates specific situations for potential exclusion from the BES. The exclusion language is written to specifically identify Elements or groups of Elements for exclusion from the BES. Step three (3) should be applied in the following sequence:

Exclusion E2 (Behind-the-Meter Generation) provides for the specific exclusion of certain Real Power resources that reside behind the retail meter (on the customer's side) and supersedes the more general Inclusion I2 (Generating Resources). Behind-the-meter generation that meets these specific criteria does not affect the reliability of the BES, because the net capacity supplied to the BES is less than 75 MVA, and the specific criteria impose obligations to support reliability when the resources are unavailable.

Exclusion E4 (Reactive Power Devices) provides for the specific exclusion of Reactive Power devices installed for the sole benefit of a retail customer(s) and supersedes the more general Inclusion I5 (Static or Dynamic Reactive Power Devices). Reactive Power devices installed for the sole benefit of a retail customer are, by definition, not required for the operation of the interconnected transmission system.

Exclusion E3 (Local Networks) provides for the exclusion of local networks that meet the specific criteria identified in the exclusion language. Exclusion E3 does not allow for the

exclusion of Real Power and Reactive Power resources captured by Inclusions I2 through I5. In instances where a transformer (under Inclusion I1) is an Element of a local network (under Exclusion E3), the transformer would be excluded pursuant to Exclusion E3. Exclusion E3 may not be used to exclude transmission Elements (captured by the core definition and Inclusion I1) when Real Power resources are present that are captured by Inclusion I2, I3, or I4. This assures that interconnection facilities for BES generators are not excluded.

Exclusion E1 (Radial Systems) provides for the exclusion of 'transmission Elements' from radial systems that meet the specific criteria identified in the exclusion language. Exclusion E1 does not allow for the exclusion of Real Power and Reactive Power resources captured by Inclusions I2 through I5. In instances where a transformer (under Inclusion I1) is an Element of a radial system (under Exclusion E1), the transformer would be excluded pursuant to Exclusion E1. Exclusion E1 may not be used to exclude transmission Elements (captured by the core definition and Inclusion I1) when Real Power resources are present that are captured by Inclusion I2, I3, or I4. This assures that interconnection facilities for BES generators are not excluded.

Bulk Electric System (BES) Definition[8]

Bulk Electric System (BES): Unless modified by the lists shown below, all Transmission Elements operated at 100 kV or higher and Real Power and Reactive Power resources connected at 100 kV or higher. This does not include facilities used in the local distribution of electric energy.

Inclusions:

I1. Transformers with the primary terminal and at least one secondary terminal operated at 100 kV or higher unless excluded by application of Exclusion E1 or E3.

I2. Generating resource(s) including the generator terminals through the high-side of the step- up transformer(s) connected at a voltage of 100 kV or above with:

a) Gross individual nameplate rating greater than 20 MVA. Or,

b) Gross plant/facility aggregate nameplate rating greater than 75 MVA.

I3. Blackstart Resources identified in the Transmission Operator's restoration plan.

I4. Dispersed power producing resources that aggregate to a total capacity greater than 75 MVA (gross nameplate rating), and that are connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage of 100 kV or above. Thus, the facilities designated as BES are:

a) The individual resources, and

b) The system designed primarily for delivering capacity from the point where those resources aggregate to greater than 75 MVA to a common point of connection at a voltage of 100 kV or above.

I5. Static or dynamic devices (excluding generators) dedicated to supplying or absorbing Reactive Power that are connected at 100 kV or higher, or through a dedicated transformer with a high-side voltage of 100 kV or higher, or through a transformer that is designated in Inclusion I1 unless excluded by application of Exclusion E4.

Exclusions:

[8] As filed in the *Petition of the North American Electric Reliability Corporation for Approval of Revisions to the Definition of "Bulk Electric System and Request for Expedited Action* (December 13, 2013), available at: http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Petition%20for%20Approval%20of%20Revised%20Definition%20of%20BES_FINAL.pdf.

E1. E1 - Radial systems: A group of contiguous transmission Elements that emanates from a single point of connection of 100 kV or higher and:

a) Only serves Load. Or,

b) Only includes generation resources, not identified in Inclusions I2, I3, or I4, with an aggregate capacity less than or equal to 75 MVA (gross nameplate rating). Or,

c) Where the radial system serves Load and includes generation resources, not identified in Inclusions I2, I3 or I4, with an aggregate capacity of non-retail generation less than or equal to 75 MVA (gross nameplate rating).

Note 1 – A normally open switching device between radial systems, as depicted on prints or one-line diagrams for example, does not affect this exclusion.

Note 2 – The presence of a contiguous loop, operated at a voltage level of 50 kV or less, between configurations being considered as radial systems, does not affect this exclusion.

E2. A generating unit or multiple generating units on the customer's side of the retail meter that serve all or part of the retail Load with electric energy if: (i) the net capacity provided to the BES does not exceed 75 MVA, and (ii) standby, back-up, and maintenance power services are provided to the generating unit or multiple generating units or to the retail Load by a Balancing Authority, or provided pursuant to a binding obligation with a Generator Owner or Generator Operator, or under terms approved by the applicable regulatory authority.

E3. Local networks (LN): A group of contiguous transmission Elements operated at less than 300 kV that distribute power to Load rather than transfer bulk power across the interconnected system. LN's emanate from multiple points of connection at 100 kV or higher to improve the level of service to retail customers and not to accommodate bulk power transfer across the interconnected system. The LN is characterized by all of the following:

a) Limits on connected generation: The LN and its underlying Elements do not include generation resources identified in Inclusions I2, I3, or I4 and do not have an aggregate capacity of non-retail generation greater than 75 MVA (gross nameplate rating);

b) Real Power flows only into the LN and the LN does not transfer energy originating outside the LN for delivery through the LN; and,

c) Not part of a Flowgate or transfer path: The LN does not contain any part of a permanent Flowgate in the Eastern Interconnection, a major transfer path within

the Western Interconnection, or a comparable monitored Facility in the ERCOT or Quebec Interconnections, and is not a monitored Facility included in an Interconnection Reliability Operating Limit (IROL).

E4. Reactive Power devices installed for the sole benefit of a retail customer(s).

Note – Elements may be included or excluded on a case-by-case basis through the Rules of Procedure exception process.

Proposed Entity Self-Determined Notification Summary

Self-Determination ID:	
Reviewed By:	Name
Review Completion Date:	month/day/year
Region	
Date Notification Submitted by Entity:	month/day/year
Type of Notification:	e.g. - E1 – E4 or I1 – 5
Accepted or Rejected:	ACCEPTED / REJECTED
Date Registration Group Notified	month/day/year
If Inclusion, Date Element must be Compliant:	month/day/year
If Exclusion, Date Element Compliance Obligation ends:	month/day/year
Entity Name:	
Is the Entity Currently Registered on the NERC Compliance Registry (NCR)?	Y/N
If Registered, Identify Entity NCR:	NCRXXXXX
If Applicable, Identify Functions:	
Type of Element:	Generator/Reactive Device/Transformer etc.
Element Full Name:	Provide Full Name
Element Name Identifier:	As shown on the One-Diagram (provide if different from Full Name)

Regional Entity BES Notification Review Checklist

YES	NO	N/A	Requirements	Comments or Remarks
Self-Determination Notification				
☐ ☐	☐ ☐	☐ ☐	Is the self-determined notification from an eligible Submitting Entity per Section 5.0 of the NERC Rules of Procedure? Are they currently registered?	
☐	☐	☐	Does the self-determined notification contain the necessary information to determine that the BES definition is properly applied?	
☐	☐	☐	Is the self-determined notification exclusion on the basis of the element being a Distribution Element? If yes, provide a record of the status of the Entity's petition filed with the Commission.	
☐	☐	☐	Has the entity submitting the self-determined notification discussed their notification with those authorities that have, or will have, the Elements within the scope of their authority? If so, summarize the result of the conversation(s).	
☐	☐	☐	Does the self-determined notification request cross Regional Entity boundaries?	
☐	☐	☐	Are all elements on this self-determined notification completely located in the Region?	
☐	☐	☐	Was a split required for this self-determined notification? If yes, provide the details and associated IDs.	

BES Notification Review Checklist				
YES	NO	N/A	Requirements	Comments or Remarks
Application of BES Definition				
☐	☐	☐	Is the self-determined notification in accordance with the proper application of the BES Definition according to the Phase 2: BES Definition Reference Document?	
☐	☐	☐	I1 – Transformers	
☐	☐	☐	I2 – Generator Resources	
☐	☐	☐	I3 – Blackstart Resources	
☐	☐	☐	I4 – Dispersed power-producing resources	
☐	☐	☐	I5 – Static or dynamic devices	
☐	☐	☐	E1 – Radial systems	
☐	☐	☐	E2 – Generator serving retail Load	
☐	☐	☐	E3 – Local Network	
☐	☐	☐	E4 – Reactive Power Devices	

BES Notification Review Checklist				
YES	NO	N/A	Requirements	Comments or Remarks
Support Information				
☐	☐	☐	Was a regional data request necessary to validate the self-determined notification? If so, provide details, including a record of the request(s) and corresponding response(s).	
☐	☐	☐	Was a sufficiently detailed one-line diagram(s) provided with the self-determined notification? List and describe the diagram(s) provided.	
☐	☐	☐	Were normally open switches marked in the diagrams?	
☐	☐	☐	Was appropriate hourly integrated flow information provided to support E2 and E3 Exclusions?	