

Unofficial Comment Form for SAR and Proposed Definition of BES (Project 2010-17)

Please **DO NOT** use this form to submit comments. Please use the electronic comment form located at the link below to submit comments on the SAR and proposed modification to the definition of Bulk Electric System (Project 2010-17). The electronic comment form must be submitted by **January 21, 2011**.

http://www.nerc.com/filez/standards/Project2010-17_BES.html

If you have questions please contact Ed Dobrowolski at Ed.Dobrowolski@nerc.net or by telephone at 609-947-3673.

Background:

FERC issued Order 743 on November 18, 2010 with the directives identified below:

16. After consideration of the comments submitted, the Commission adopts the NOPR's proposal with some modifications. The Commission directs the ERO to revise the definition of "bulk electric system" through the NERC Standards Development Process to address the Commission's concerns discussed herein. The Commission believes the best way to address these concerns is to eliminate the Regional Entities' discretion to define "bulk electric system" without ERO or Commission review, maintain a bright-line threshold that includes all facilities operated at or above 100 kV except defined radial facilities, and adopt an exemption process and criteria for excluding facilities that are not necessary to operate an interconnected electric transmission network. However, NERC may propose a different solution that is as effective as, or superior to, the Commission's proposed approach in addressing the Commission's technical and other concerns so as to ensure that all necessary facilities are included within the scope of the definition.

The BES SAR authors are proposing a revised definition of the term BES to provide improved clarity, to reduce ambiguity and to establish a universal "bright-line" for distinguishing between BES and non-BES Elements and Facilities.

Proposed continent-wide definition of Bulk Electric System:

Bulk Electric System: All Transmission and Generation Elements and Facilities operated at voltages of 100 kV or higher necessary to support bulk power system reliability. Elements and Facilities operated at voltages of 100kV or higher, including Radial Transmission systems, may be excluded and Elements and Facilities operated at voltages less than 100kV may be included if approved through the BES definition exemption process.

This proposed definition provides consistency across the continent's reliability regions by establishing a definition that clearly describes what constitutes BES and non-BES Elements and Facilities. The BES definition references an exemption process (which may include regional differences as defined by Order 672 or jurisdictional exemptions as appropriate for those entities not subject to Section 215 of the Federal Power Act) that can be used to:

- Identify the Radial Transmission systems that are excluded from the BES;

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- Identify Elements and Facilities operated at voltages of 100kV or higher that may be excluded from the BES; and
- Identify Elements and Facilities operated at voltages less than 100kV that may be included in the BES.

The development, approval and application of the BES definition exemption process (including periodic review of exempted facilities) will be governed by revisions to the NERC Rules of Procedure, in close coordination with the revision of the BES definition.

Information collected from the following questions will assist both the BES Drafting Team and the group working to develop a BES Definition Exception Process.

1. Should the following should be classified as part of the BES?

- Transformers, other than Generator Step-up (GSU) transformers, including Phase Angle Regulators, with both primary and secondary windings of 100 kV or higher

Yes No

Comments: **Yes, since FERC has directed the bright-line criteria is 100kV or above.**

2. Should the following be classified as part of the BES?

- Individual generation resources (including GSU transformers and the associated generator interconnecting line lead(s)) greater than 20 MVA (gross nameplate rating) directly connected via a step-up transformer(s) to Transmission Facilities operated at voltages of 100 kV or above

Yes No

Comments:

The SAR DT should use caution if the above statement is to be used within a guideline or rational box. The use of the word “interconnecting line leads may be somewhat ambiguous and lead to other confusion. GSU should be spelled out as a “generator step up transformer” and properly used within the statement:

*Individual generation resources (including **Generator Step Up** transformers and the associated generator interconnecting line lead(s)) greater than 20 MVA (gross nameplate rating) directly connected via a **Generator Step-Up** transformer(s) to Transmission Facilities operated at voltages of 100 kV or above.*

For clarity, the NSRS suggests that the (gross nameplate rating) be changed to read “(gross generator nameplate rating)” and further classified as part of the BES given that a fault or outage of the individual generator resource greater than 20 MVA would not maintain an Adequate Level of Reliability of the BES.

3. Should the following be classified as part of the BES?

- Generation plants (including GSU transformers and the associated generator interconnecting line lead(s))with aggregate capacity greater than 75 MVA (gross nameplate rating) directly connected via a step-up transformer(s) to Transmission Facilities operated at voltages of 100 kV or above

X Yes No

Comments:

See question 2 for similar comments and it is apparent that the SDT is trying to model the BES definition on the Statement of Compliance Registry Criteria (v5). Recommend that this question be struck. Question 2 above addresses connection requirements of Generators.

For clarity, NSRS suggests that the “. . . aggregate capacity greater than 75 MVA . . .” wording be changed to read, “. . . aggregate generator capacity greater than 75 MVA. . . and further classified as part of the BES given that a fault or outage of the aggregate generator capacity greater than 75 MVA would not maintain an Adequate Level of Reliability of the BES.

4. Should the following be classified as part of the BES?

- Blackstart Resources and the designated blackstart Cranking Paths identified in the Transmission Operator’s (TOP’s) restoration plan
 Yes No

Comments:

This question is irrelevant to the scope of this project. A Blackstart Resource may be a 10 MVA unit connected at the distribution level of voltage and within the TOP’s Restoration Plan. Just because the unit is within the TOP’s Restoration Plan does not make it a BES connected asset. CIP-002-4 is already industry approved and may “push” both large and small entities to remove these units from the TOP’s Restoration Plan due to the Critical Asset label. If the Blackstart Resource is connected via GSU at 100 kV then it would be part of the BES. If the SDT is worried that a Blackstart Resource will not be maintained or tested, those requirements are within EOP-005-1 (and yet to be approved EOP-005-2). Blackstart Resources and designated blackstart Cranking Paths should not be classified as part of the BES, except those Elements and/or Facilities that are rated 100 kV or more and with a gross nameplate rating of 20 MVA or more.

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5. Should the following be classified as part of the BES?

- Transmission Elements or Facilities operated at voltages below 100kV where the exemption process deems the Element or Facility to be included in the BES

Yes No

Comments:

FERC has directed (in section 30 of FERC Order 743) that NERC have an established “exemption” process to remove this judgment from the Regions in defining what the BES is. However, the applicable process should be called an “exception” process, not an “exemption” process that infers the concept of “exclusion” and further classified as part of the BES given that a fault or an outage on the Transmission Element or Facility at voltages below 100kV would not maintain an Adequate Level of Reliability of the BES.

6. Should the following be classified as part of the BES?

- Individual generation resources greater than 20 MVA (gross nameplate rating) directly connected via a step-up transformer(s) to Facilities operated at voltages below 100kV where the exemption process deems the generation resources to be included in the BES

Yes No

Comments:

FERC has directed (in section 30 of FERC Order 743) that NERC have an established “exemption” process to remove this judgment from the Regions in defining what the BES is. However, the applicable process should be called an “exception” process, not an “exemption” process that infers the concept of “exclusion” and further classified as part of the BES given that a fault or an outage on individual generation resources greater than 20MVA would not maintain an Adequate Level of Reliability of the BES.

7. Should the following be classified as part of the BES?

- Generation plants with aggregate capacity greater than 75 MVA (gross nameplate rating) directly connected via a step-up transformer(s) to Facilities operated at voltages below 100kV where the exemption process deems the generation plants to be included in the BES

Yes No

Comments:

However, the applicable process should be called an “exception” process, not an “exemption” process that infers the concept of “exclusion” and further classified as part of the BES given that a

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fault or an outage on the generation resource with aggregate capacity greater than 75 MVA would not maintain an Adequate Level of Reliability of the BES.

8. Should the following be excluded from the Elements and Facilities classified as part of the BES?

- Any radial Transmission Element or System, connected from one Transmission source to a Load-serving Element and/or generation resources not included in items 2, 3, 4, 6, and 7 above are excluded from the BES

Yes No

Comments:

However, the NSRS agrees that a radial transmission element or system directly connected from one Transmission source to a Load-serving Element and/or generation resources are excluded as part of the BES given that a fault or an outage of the radial transmission element or system would not impact the Adequate Level of Reliability of the BES.

9. Should the following be excluded from the Elements and Facilities classified as part of the BES?

- Elements and Facilities identified through application of the exemption process, consistent with the criteria, where the exemption process deems that the Element or Facility should be excluded from the BES (with concurrence from the ERO)

Yes No

Comments:

This will give the industry a clear set of criteria to follow which is FERC approved. If a Regional Entity has a need to alter this process there are processes in place for them to pursue a variance. However, the applicable process should be called an "exception" process to avoid the connotation that "exemption" process has for the "inclusion" aspect of the process. NSRS believes the exemption process, review and approval, would be best handled by the Regional Entity (RE) since they have more knowledge on the transmission system in their region. The "who" and "what" will have to be spelled out clearly in the criteria for the exception process.

10. Should the following be excluded from the Elements and Facilities classified as part of the BES?

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- Generating plant control and operation functions which include relays and systems that control and protect the unit for boiler, turbine, environmental, and/or other plant restrictions.

Yes No

Comments:

This will give our industry a clear defining line of what is a BES Facility and what it is comprised of.

11. Do you believe that the proposed definition of BES, accompanied by a separate BES Definition Exception Process meets the reliability-related intent of the directives in Order 743?

Yes No

Comments:

However, NSRS does not want to appear to endorse any separate BES Definition Exception Process until one has been clearly proposed and meets the reliability-related intent of the Order 743 directives. Furthermore, NSRS believes the separate Exception Process should be subject to the Standards (“Definition”) Development Process as the associated BES definition.

12. If you have a proposal for an equally efficient and effective method of achieving the reliability-related intent of the directives in Order 743, please provide your proposal here.

Proposed BES definition: *Bulk Electric System: ~~All Transmission and Generation Elements and~~ Facilities operated at voltages of 100 kV or higher necessary to support ~~bulk power system reliability~~ the interconnected transmission network reliability (Note see the NERC approved exemption process for Facilities that are and are not considered part of the BES). ~~-(Elements and Facilities operated at voltages of 100kV or higher, including Radial Transmission systems, may be excluded and Elements and Facilities operated at voltages less than 100kV may be included if approved through the BES definition exemption process).~~*

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Rational:

1. NERC defines Facilities as “a set of electrical equipment that operates as a single BES Element. Since Element is part of the Facilities NERC definition it is not needed to be repeated.
 2. Section 30 of FERC Order 743 “all facilities operated at or above 100kV” should be included in the bright-line criteria.
 3. This new language eliminates the ambiguity as directed in FERC Order 743 whereby the Region cannot establish other bright-line criteria for what the BES is.
 4. This reinforces foot note 41 by stating exactly what “reliability” of the BES needs to be reinforced. The “interconnected transmission reliability should also be used in any “exemption criteria” that the SDT formulates in the future.
 5. The removal of *bulk power system reliability* is still a somewhat ambiguous term and FERC has stated that the BPS definition is not within the scope of this FERC Order.
 6. Note that the NERC defined term of Facility contains the word BES. So, as written, a Facility is energized at 100kV or above. The capitalized word of Facility cannot be used in the inclusion process since those facilities would be below the 100kV level.
13. Please provide any other information that you feel would be helpful to the drafting team working on the definition of BES.

Comments:

- A. What time frame is the SDT considering for the implementation of this definition and process once approved, allowing enough time for the entities to provide justification, and then make the necessary changes to their internal programs?
- B. Recommend the BES SDT be consistent with the generation registration criteria and the Protection System definition and other documents. For example, what is a “common bus” as stated in the generation registration criteria.
- C. Please review and update the concept paper. The concept paper does not specifically call out Transmission Lines above 100 kV as in the BES definition (the proposed definition does, however) and there is a circular exemption criteria in the concept paper. In criterion #2, it refers to the exemption process “consistent with the criteria”. The criteria exempt generating plant controls and Transmission Elements or Systems that are radial to a load or generator not included in the BES List. However, the BES list is defined prior to the criteria in the concept paper. Exemption criterion #1 points to BES list elements #6 and #7, which

in turn, refer to the exemption process. But, the exemption criteria never define how to exempt the elements referred to in #6 and #7.

D. How often would a Registered Entity revisit this Exception Process? NSRS can envision a scenario where they are doing that every year or two because of the changes in load, generation, and transmission. The process should also allow for multi-year distinctions for exceptions. In other words, if a Registered Entity gets a facility excluded, then that exclusion should be allowed for 3 or more years. Annual certifications and approval are too restrictive.

E. NSRS believes the exception criteria needs to be developed by the SDT. NERC Staff should focus on the process (identification, notification, appeal and rights) but the SDT is in the better position to develop the technical piece of the exception criterion.