

**Question 2: Summary Consideration:** Prior to the issuance of Order 743a, the SDT reviewed all of the provided material and used this material and the examples supplied in its consideration of the revised definition of the Bulk Electric System (BES). The goal of the SDT is to provide a bright-line definition of BES which adheres to the guidelines and directives in Order 743. This bright-line definition contains certain inclusions and exclusions for specific equipment and configurations. The SDT believes that this definition now answers many of the questions raised by industry and encompasses most of the examples provided. However, no bright-line definition will be able to capture all of the concerns or situations. Accordingly, and consistent with Order 743, another aspect of this project is to establish an exception process with criteria based on reliability principles for the Interconnected BES that will be incorporated in NERC’s Rules of Procedure (ROP) that will allow a process for the inclusion or exclusion of a particular BES Element from the definition. This ROP work effort will be done by a separate team but the DBESSDT will be in close coordination with that team.

2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:
  - a. Identify the Element or Facility recommended for inclusion:
  - b. Attach a generic one-line diagram depicting the Element or Facility (if available).
  - c. Provide a technical justification for the inclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).
  - d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don’t know how widely this inclusion should apply, please select, “unknown.”

**Commenters:**

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**Michael Moltane and John Zipp, ITC Holdings**

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**2.** If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

**Comments relative to the proposed inclusion(s):** Again it is unclear what is meant by Region wide when talking about an element inclusion. It is important that this be tied to the PRC023 “Critical Element” definition/test. Why would I apply for an element inclusion when there is no definition of what is required for the element to be included?

**Frank Gaffney, Florida Municipal Power Agency, Et all**

**Florida Municipal Power Agency is filing the comments below on behalf of its' project participants:**

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Lakeland Electric  
City of Clewiston  
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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

- a. Identify the Element or Facility recommended for inclusion:

FMPA' proposed criteria for inclusion are listed above in response to Question 1(a). As stated above, there should be no "generic" or "categorical" inclusions. Inclusions, like exemptions, should be considered on a case-by-case basis. The *criteria* by which proposed inclusions or requested exemptions are judged, however, should be uniform across the continent.

- d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

Continent-wide

**Comments relative to the proposed inclusion(s):** This question appears to assume that all inclusions in the BES will be categorical, rather than case-by-case. This is inappropriate. Inclusions, like exclusions, should involve case-specific consideration of the uniform, continent-wide criteria.

The inclusion process should be the mirror image of the exemption process: it is NERC, rather than the Registered Entity, who initiates the process, and the burden is on NERC to demonstrate that the Element to be included is "necessary for operating an interconnected electric transmission network." The processes should otherwise be identical: the initial determination should be made by NERC staff, with appeals to the Board of Trustees Compliance Committee, and to FERC if necessary. The proposed process is discussed in more detail in response to Question 1 above.

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3. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

- a. Identify the Element or Facility recommended for inclusion: [Elements or Facilities that are shown through engineering studies to be necessary to reliably operate an interconnected bulk electric system.](#)
- b. Attach a generic one-line diagram depicting the Element or Facility (if available).
- c. Provide a technical justification for the inclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** [An element or facility that is necessary to reliably operate an interconnected transmission system should be included in the BES. This can be measured using engineering studies that show the effect of worst-case disturbances on multiple indicators such as frequency, voltage, system flows, operating limits, generator tripping, cascading outages, and/or islanding. If the system cannot maintain acceptable steady-state and dynamic performance with a disturbance at the element, it is necessary to reliably operate the system.](#)

d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

[Continent-wide](#)

[Interconnection-wide](#)

[Region-wide](#)

**Comments relative to the proposed inclusion(s):** [While operating voltage \(i.e., the proposed 100 kV bright-line\) may be a clear and repeatable proxy for identifying those elements that are necessary to reliably operate an interconnected transmission system, it is a broad approach that may not adequately address specific examples. Moreover, engineering studies can be used to more granularly and accurately identify such elements that are needed to reliably operate an interconnected transmission system.](#)

[The thresholds on the indicators listed above may vary between interconnections and regions. For example, voltage deviation may be more relevant in the Western](#)

Interconnection (which is primarily stability limited) than in the Eastern  
Interconnection (which is primarily thermally limited).

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**2.** If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

- a.** Identify the Element or Facility recommended for inclusion: [Any Element above 100-kV that is shown \(through system studies\) to be necessary to reliably operate the interconnected transmission system.](#)
- b.** Attach a generic one-line diagram depicting the Element or Facility (if available).
- c.** Provide a technical justification for the inclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** [An Element that is required to reliably operate the interconnected transmission system should be included in the BES. This can be assessed through engineering system studies that show the worst-case results based on indicators such as voltage, frequency, OTC limits, angular instability and/or cascading outages based on that Element being removed from service. If the system cannot maintain acceptable performance without that Element, it is necessary to reliably operate the interconnected transmission system.](#)

**d.** Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

[Continent-wide](#)

[Interconnection-wide](#)

[Region-wide](#)

**Comments relative to the proposed inclusion(s):** [While a brightline test voltage \(such as the proposed >100-kV\) may be a clear and repeatable proxy for identifying Elements that are necessary to reliably operate the interconnected transmission system, this broad approach may not adequately address specific examples. Engineering system studies can accurately identify Elements which are not needed to reliably operate the interconnected transmission system.](#)

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**2.** If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

- a.** Identify the Element or Facility recommended for inclusion: **Common interconnection between the two jurisdictions.**
- b.** Attach a generic one-line diagram depicting the Element or Facility (if available).
- c.** Provide a technical justification for the exclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** **Common rules should applied to the common elements.**

- d.** Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

**Continent-wide**



**Guy Zito, Northeast Power Coordinating Council**

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**2.** If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

- a.** Identify the Element or Facility recommended for inclusion: [Transmission facilities as determined to be necessary for reliability to the bulk electric system. Common interconnections between two or more areas.](#)
- b.** Attach a generic one-line diagram depicting the Element or Facility (if available).
- c.** Provide a technical justification for the exclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** [The exemption process should allow for a registered entity to submit the results of an objective, impact based assessment evaluation in support of its application for exemption of facilities that would otherwise be classified as part of the BES. This assessment process, when consistently applied in a non-arbitrary manner, would yield results that demonstrate that the facilities for which the exemption is being sought do not impact the BES whenever they are removed from service.](#)

[Any regional or registered entity can present technical studies to NERC for consideration of the expansion of the Bulk Electric System. The primary consideration by NERC Staff for inclusion must be that the addition of these recommended facilities bring a measurable \(not subjective\) incremental reliability benefit to real-time grid operations. Common rules should apply to elements common to the interconnections between two or more areas.](#)

**d.** Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

- [Continent-wide](#)
- [Interconnection-wide](#)
- [Region-wide](#)
- [Less than Region-wide](#)

**Comments relative to the proposed inclusion(s):** [Registered Entities must retain the right to appeal any decisions with direct implications to their facilities. Broad applications of "included facilities" could result in the designation of facilities, the](#)

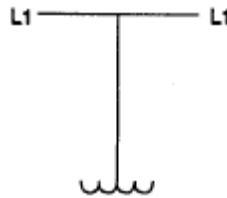
inclusion of which is not warranted. Registered Entities need the right to seek exemption when broad new inclusions are applied.

**Jim Uhrin**      **ReliabilityFirst Corporation**

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:
- Identify the Element or Facility recommended for inclusion: **Those facilities that trip and lockout a BES facility at anytime must be included.**
  - Attach a generic one-line diagram depicting the Element or Facility (if available).



In the diagram above, the distribution transformer operated below 100 kV without a high-side interrupting device and connected to the BES that does or could trip and lockout a BES facility should be included since there is no way to isolate the transformer without tripping/locking out another BES facility. However, if radial equipment has sectionalizing (such as a high-side ground switch or circuit switcher) that prohibits its operation from or does not trip and lockout a BES facility for any reason and therefore could not affect operation of the BES, those facilities could also be excluded.

- Provide a technical justification for the exclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** **If the facility trips and lockouts a BES facility, then it should be included as a part of the BES.**

- Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

Continent-wide

**Joe Petaski, Manitoba Hydro**

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- 2.** If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

**Comments relative to the proposed inclusion(s):** No comment but there should be no regional differences in the BES definition or in the BES definition exemption process.

**John W.Delucca, Lee County Electric Cooperative**

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:
  - a. Identify the Element or Facility recommended for inclusion: No specific element proposed.
  - b. Attach a generic one-line diagram depicting the Element or Facility (if available).
  - c. Provide a technical justification for the inclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** [The only reason a lower voltage should be considered for inclusion is if, under normal operating conditions, loss of these elements has a significant reliability impact upon the BES](#)

**Comments relative to the proposed inclusion(s):** [Only where and if a rare case of BES impact exists.](#)

**Paul Cummings, City of Redding**

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**2.** If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

- a.** Identify the Element or Facility recommended for inclusion: [Those elements or facilities operated below 100kV that are shown through engineering studies to be necessary to reliably operate an interconnected transmission system. See Attachment 1 below.](#)
- b.** Attach a generic one-line diagram depicting the Element or Facility (if available).

**[Refer to Attachment 1b.5](#)**

- c.** Provide a technical justification for the inclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** [“The impact an Element has on the BES shall be determined by assessing the performance of key measures of BES reliability through power flow, post-transient, and transient stability analysis with \(1\) the system, and the Subject Element, operating at reasonably stressed conditions that replicate expected system conditions under which the loss of the Subject Element would have the greatest impact on the key measures of reliability, and \(2\) the Subject Element removed from service, but without allowing for system readjustment.”](#)

- d.** Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, “unknown.”

[Continent-wide](#)

[Interconnection-wide](#)

[Region-wide](#)

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

- a. Identify the Element or Facility recommended for inclusion: Elements or Facilities that are shown through engineering studies to be necessary to reliably operate an interconnected bulk electric system may need to be included even if operated at voltages below 100kV. Additionally, there are transmission facilities at 100kV and above that are radial in nature and used for load serving purposes that are not parallel to interconnected transmission systems. As an example, in SCE's system the Valley 115kV system is radial in nature and the power flow is generally from 500kV to 115kV to serve load.
- b. Attach a generic one-line diagram depicting the Element or Facility (if available).
- c. Provide a technical justification for the inclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** An element or facility that is necessary to reliably operate an interconnected transmission system should be included in the BES. This can be measured using engineering studies that show the effect of worst-case disturbances on multiple indicators such as frequency, voltage, system flows, operating limits, generator tripping, and cascading outages and/or islanding. If the system cannot maintain acceptable steady-state and dynamic performance without the subject element in service, that element is necessary to reliably operate the system.

- d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

X Continent-wide

X Interconnection-wide

X Region-wide

**Comments relative to the proposed inclusion(s):** While operating voltage (i.e. the proposed 100kV bright-line) may be a clear and repeatable proxy for identifying those elements that are necessary to reliably operate an interconnected transmission system, it is a broad approach that may not adequately address specific examples. Engineering studies can be used to more granularly and accurately identify elements which are not needed to reliably operate an interconnected transmission system.

The thresholds on the indicators listed above may vary between interconnections and regions. For example, SCE's system has facilities rated at the 115kV level that are radial in nature for load serving purposes. Therefore, applying a 100kV bright-line may unnecessarily bring facilities that could be excluded through an engineering study.



**Manny Robledo, City of Anaheim**

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

**Comments relative to the proposed inclusion(s):** Anaheim's sub-transmission system is operated at 69kV and is radial to the BES with one transmission source. There is no transmission through Anaheim, and there are no generators connected to Anaheim's distribution system that are required for the reliable operation of the BES.

**Lorissa Jones, Transmission Reliability Program Manager**

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:
- a. Identify the Element or Facility recommended for inclusion: **Elements or Facilities that are shown through engineering studies to be necessary to reliably operate an interconnected bulk electric system. Balancing Authorities need to have the authority to recommend inclusion on a facility by facility basis based on impact to the larger BES considerations for registration.**
  - b. Attach a generic one-line diagram depicting the Element or Facility (if available).
  - c. Provide a technical justification for the inclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** **An element or facility that is necessary to reliably operate an interconnected transmission system should be included in the BES. This can be measured using engineering studies that show the effect of worst-case disturbances on multiple indicators such as frequency, voltage, system flows, operating limits, generator tripping, cascading outages and/or islanding. If the system cannot maintain acceptable steady-state and dynamic performance without the subject element in service, it is necessary to reliably operate the system.**

- d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

Interconnection-wide

Region-wide

**Comments relative to the proposed inclusion(s):** **While operating voltage (i.e. the proposed 100 kV brightline) may be a clear and, repeatable proxy for identifying those elements that are necessary to reliably operate an interconnected transmission system, it is a broad approach that may not adequately address specific examples. Moreover engineering studies can be used to more granularly and accurately identify such elements which are needed to reliably operate an interconnected transmission system.**

**David Burke, Orange and Rockland Utilities**

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:
- a. Identify the Element or Facility recommended for inclusion: Transmission facilities as determined to be necessary for reliability to the bulk electric system.
  - b. Attach a generic one-line diagram depicting the Element or Facility (if available).
  - c. Provide a technical justification for the inclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** Any regional or registered entity can present technical studies to NERC for consideration of the expansion of the Bulk Electric System. The primary consideration by NERC Staff for inclusion must be that the addition of these recommended facilities bring a measurable (not subjective) incremental reliability benefit to real-time grid operations.

- d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

X  Continent-wide

X  Interconnection-wide

X  Region-wide

X  Less than Region-wide

**Comments relative to the proposed inclusion(s):** Registered Entities must retain the right to appeal any decisions with direct implications to their facilities. Broad applications of "included facilities" could result in the designation of facilities, the inclusion of which is not warranted. Registered Entities need the right to seek exemption when broad new inclusions are applied.

Alice Ireland, Xcel Energy

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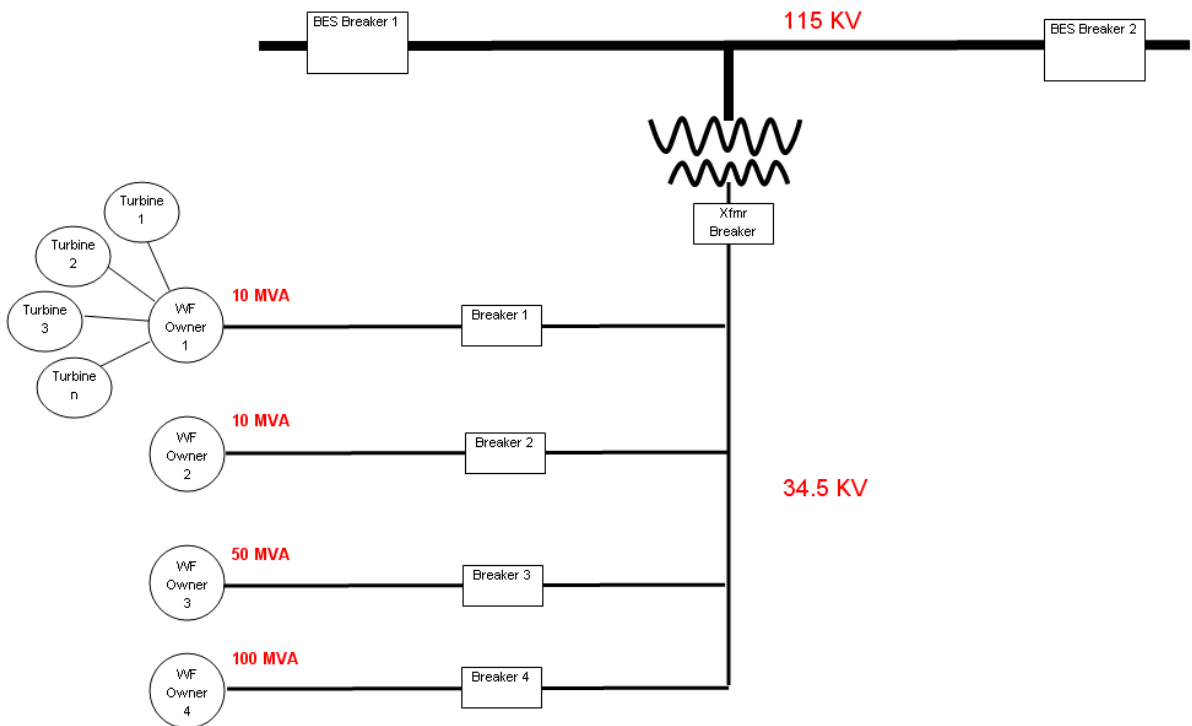
Email: [alice.murdock@xcelenergy.com](mailto:alice.murdock@xcelenergy.com)

2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

Unknown

Comments relative to the proposed inclusion(s): The scenario below should be considered and worked through as part of the development of the definition and exemptions. As stated in questions 2, 3, 8 of the BES definition comment questionnaire it is unclear as to how treatment of facilities would occur, especially if there are multiple/separate owners of each wind farm, even though they aggregate to a common bus that connects to the transmission system. Treatment of the bus and breakers between each wind farm and the transformer also needs to be contemplated and addressed in the definition or exclusion process.



**Amir Hammad, Constellation Power Source Generation, Inc., Et all**

**CPSG is filing the comments below on behalf of:**

Constellation Energy Group, Inc.  
Baltimore Gas & Electric Company  
Constellation Energy Commodities Group, Inc.  
Constellation Energy Control and Dispatch, LLC  
Constellation NewEnergy, Inc. and its affiliates  
Constellation Energy Nuclear Group, LLC,<sup>1</sup>

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:
- a. Identify the Element or Facility recommended for inclusion: [Constellation believes that the drafting team should incorporate the inclusions found in the Compliance Registration criteria that have been excluded by the proposed BES definition. RFC has adopted this approach in their BES definition.](#)
  - d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

[Continent-wide](#)

**Comments relative to the proposed inclusion(s):** [Constellation does not believe that there are any Transmission or Generation Elements or Facilities operated at voltages below 100kV that should be considered for inclusion in the Elements and Facilities classified as part of the BES other than those provided for in the Compliance Registration Criteria and echoed in the RFC BES Definition sited above.](#)

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<sup>1</sup> On November 6, 2009, EDF, Inc. ("EDF") and Constellation Energy Group, Inc. completed a transaction pursuant to which EDF acquired a 49.99 percent ownership interest in CENG. CENG was previously a wholly owned subsidiary of Constellation Energy Group, Inc.

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:
  - a. Identify the Element or Facility recommended for inclusion: TAPS' proposed criteria for inclusion are listed above in response to Question 1(a). As stated above, there should be no "generic" or "categorical" inclusions. Inclusions, like exemptions, should be considered on a case-by-case basis. The *criteria* by which proposed inclusions or requested exemptions are judged, however, should be uniform across the continent.

**Comments relative to the proposed inclusion(s):** This question appears to assume that all inclusions in the BES will be categorical, rather than case-by-case. This is inappropriate. Inclusions, like exclusions, should involve case-specific consideration of the uniform, continent-wide criteria.

The inclusion process should be the mirror image of the exemption process: it is NERC, rather than the Registered Entity, who initiates the process, and the burden is on NERC to demonstrate that the Element to be included is "necessary for operating an interconnected electric transmission network." The processes should otherwise be identical: the initial determination should be made by NERC staff, with appeals to the Board of Trustees Compliance Committee, and to FERC if necessary. The proposed process is discussed in more detail in response to Question 1 above.

**Marc M. Butts, Southern Company**

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

**Comments relative to the proposed inclusion(s):** [Subpart D should be deleted – any inclusion should be a specific request for a specific facility, not on a generic Continent-wide, Interconnection-wide or Region wide-basis.](#)

**Ronald Sporseen, PNGC Power, Et all**

**Email: [RSporseen@pngcpower.com](mailto:RSporseen@pngcpower.com)**

**Supporters of the following comments are as follows:**

Bud Tracy, Blachly-Lane Electric Cooperative  
Dave Hagen, Clearwater Power Cooperative  
Dave Sabala, Douglas Electric Cooperative  
Heber Carpenter, Raft River Rural Electric Cooperative  
Dave Markham, Central Electric Cooperative  
Jon Shelby, Northern Lights, Inc.  
Ken Dizes, Salmon River Electric Cooperative  
Ray Ellis, Okanogan County Electric Cooperative  
Richard Reynolds, Lost River Electric Cooperative  
Rick Crinklaw, Lane Electric Cooperative  
Roger Meader, Coos-Curry Electric Cooperative  
Roman Gillen, Consumer's Power Inc.  
Steve Eldrige, Umatilla Electric Cooperative  
Marc Farmer, West Oregon Electric Cooperative  
Michael Henry, Lincoln Electric Cooperative  
Bryan Case, Fall River Electric Cooperative

**2.** If you believe there are Transmission or Generation Elements or Facilities operated at voltages below 100kV which should be considered for inclusion in the Elements and Facilities classified as part of the BES:

- a.** Identify the Element or Facility recommended for inclusion: [In rare cases, facilities operating below 100kV should be considered for inclusion in the BES, but only if the RRO provides clear evidence that such facilities threaten to cause instability, uncontrolled separation, or cascading outages on the bulk transmission system if those facilities are not included as part of the BES.](#)
- b.** Attach a generic one-line diagram depicting the Element or Facility (if available).
- c.** Provide a technical justification for the inclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** [As discussed above, the ultimate goal of the standards drafting process must be to ensure the reliable operation of the bulk transmission system, so that the risks of instability, uncontrolled separation, and cascading outages on the bulk system are reduced. In rare cases, it is possible that facilities operating at voltages below 100kV may create risks of this kind to the bulk system. However, caution should be used when identifying parallel lower voltage systems that reduce transfers on higher voltage systems as reliability concerns. In many cases these concerns are commercial in nature and the burden to resolve these capacity issues should be placed on the TSP.](#)



- d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

Continent-wide

Interconnection-wide

Comments relative to the proposed inclusion(s): The BESDTF has developed an approach in which certain facilities operating at voltages below 100kV would be included in the BES, but facilities not falling within these specific, defined categories would not be included in the BES unless the RRO could demonstrate that the facility creates a material impact threatening the reliable operation of the bulk interconnected system. We believe this is a sensible approach to this question.

**John D. Martinsen, Public Utility District No. 1 of Snohomish County**

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages **below 100kV** which should be considered for **inclusion** in the Elements and Facilities classified as part of the BES:

- a. Identify the Element or Facility recommended for inclusion:

In rare cases, facilities operating below 100 kV should be considered for inclusion in the BES, but only if the RRO provides clear evidence that such facilities threaten to cause instability, uncontrolled separation, or cascading outages on the bulk transmission system if those facilities are not included as part of the BES.

- b. Attach a generic one-line diagram depicting the Element or Facility (if available).  
c. Provide a technical justification for the inclusion (provide justification here or attach a supplemental document or URL link to publicly posted document if available).

**Justification:** As discussed above, the ultimate goal of the standards drafting process must be to ensure the reliable operation of the bulk transmission system, so that the risks of instability, uncontrolled separation, and cascading outages on the bulk system are reduced. In rare cases, it is possible that facilities operating at voltages below 100 kV may create risks of this kind to the bulk system. However, caution should be used when identifying parallel lower voltage systems that reduce transfers on higher voltage systems as reliability concerns. In many cases these concerns are commercial in nature and the burden to resolve these capacity issues should be placed on the TSP.

- d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don't know how widely this inclusion should apply, please select, "unknown."

Continent-wide

Interconnection-wide

**Comments relative to the proposed inclusion(s):** The BESDTF has developed an approach in which certain facilities operating at voltages below 100-kV would be included in the BES, but facilities not falling within these specific, defined categories would not be included in the BES unless the RRO could demonstrate that the facility creates a material impact threatening the reliable operation of the bulk interconnected system. We believe this is a sensible approach to this question.

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2. If you believe there are Transmission or Generation Elements or Facilities operated at voltages **below 100kV** which should be considered for **inclusion** in the Elements and Facilities classified as part of the BES:
- a. Identify the Element or Facility recommended for inclusion: **This burden would be on the Regional Entity rather than the Registered Entity. Facilities that are not radial serving only load may be put through an inclusion process (similar to, but with the opposite effect of the exclusion process) to determine if they are needed for “reliable operation” as defined in 16 U.S.C. § 824o(a)(4).**
  - d. Identify if this inclusion should apply on a continent-wide basis, interconnection-wide basis, region-wide basis, or less than a region-wide basis. If you don’t know how widely this inclusion should apply, please select, “unknown.”

Continent-wide