

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Revisions to Electric Reliability)	Docket Nos. RM12-6-000
Organization Definition of Bulk Electric)	RM12-7-000
System and Rules of Procedure)	

COMMENTS OF THE BONNEVILLE POWER ADMINISTRATION

The Bonneville Power Administration (“Bonneville”) hereby submits the following comments on the Commission’s Notice of Proposed Rulemaking (“NOPR”) regarding the definition of the bulk electric system under the mandatory reliability standards regime.

Bonneville is a federal power marketing agency providing wholesale power and transmission services within the four state region of the Pacific Northwest and portions of neighboring states.

Bonneville is subject to the mandatory reliability standards that the Commission approves under Section 215 of the Federal Power Act.¹

Bonneville supports the Commission’s proposal to approve the modification to the definition of “bulk electric system” (“BES”) developed by the North American Electric Reliability Corporation (“NERC”). Bonneville also supports the complementary proposals to approve NERC’s revisions to its Rules of Procedure, proposed exception request form, and implementation plan. Bonneville supports NERC’s and the Commission’s goal of standardizing the BES definition across regions, while retaining flexibility. Bonneville also supports the BES Task Force’s Phase II efforts.

Bonneville has two primary concerns that it believes must be addressed to achieve the reliability goals of the BES definition. First, all impacted parties must be involved in the decision-making process for applying an exclusion to a particular facility. Transmission Operators, Balancing Authorities, Planning Authorities, and other entities need to be able to

¹ 16 U.S.C. § 824o.

present their analyses of the effects of the exclusion on neighboring systems. If these parties are not involved, they will have only limited input through the exception process, which may result in facilities being improperly excluded.

Second, Bonneville believes the proposed 300 kV ceiling for the local network exclusion is inappropriate. Fault magnitudes on systems between 200 kV and 300 kV are much higher than fault magnitudes on systems operated below 200 kV. Actual power flows on systems above 200 kV are also much higher. Hence, these systems have a much higher potential for serious impacts than networks operating below 200 kV if something fails to operate properly, including cascading outages, transient instability, and post-transient voltage instability. Bonneville believes that a blanket exclusion does not recognize the larger impact these facilities have on the BES. Bonneville does not oppose removing individual elements above 200 kV from the BES through the exemption process.

The Commission requested comments on numerous topics related to NERC's proposals, and Bonneville submits the following comments in response to the specific queries.

COMMENTS

Paragraph 56: The Commission seeks comment on whether the revised definition adequately eliminates subjectivity and regional variation as required in Order No. 743.

Bonneville believes that the revised definition adequately eliminates subjectivity and regional variation as required in Order Nos. 743 and 743-A. Bonneville agrees with the Commission that, as much as possible, subjectivity should be eliminated from Reliability Standards. Bonneville recognizes, however, that certain determinations regarding which facilities should or should not be a part of the BES will be system specific and must be made on a case-by-case basis. The regional parties most familiar with those systems, and directly

impacted by them, need to retain the flexibility and discretion to make the necessary analyses regarding those facilities.

Paragraph 60: The Commission seeks comment from NERC and the public regarding how the proposed definition is responsive to the Commission's directives in Order Nos. 743 and 743-A. Specifically, the Commission seeks comment on how NERC's proposal adequately differentiates between local distribution and transmission facilities in an objective, consistent, and transparent manner.

Bonneville believes that the proposed inclusions and exclusions appropriately differentiate between local distribution and transmission facilities. To meet the remaining criteria of objectivity, consistency, and transparency, however, all impacted parties must have the ability to participate in the exclusion process. Accordingly, the affected Balancing Authority, Transmission Operator, and Planning Authority must evaluate each request for exclusion to ensure the integrity of the bulk grid is preserved.

Paragraph 65: We seek comment whether inclusion I2 will result in a material change to registration of existing generating units due to the difference in the language regarding the connection point.

Bonneville does not believe there will be material changes in the registration of existing generation due to the language regarding the connection point.

Paragraph 68 [first request]: Accordingly, we seek comment on whether a reliability gap may exist with regard to cranking paths and, if so, what potential approaches are appropriate to remove the gap.

Bonneville believes there is a potential reliability gap if cranking paths are not included. Cranking paths are crucial to system restoration. Even though inclusion of cranking paths may implicate local distribution facilities, these paths also implicate reliability. Therefore, all primary cranking paths should be part of the BES, and they should not be eligible for exception requests.

Paragraph 68 [second request]: We also seek comment on the appropriate role, if any, of state regulators in ensuring that energy from blackstart generation is reliably delivered through cranking paths to restart the system after an event.

Because Bonneville believes all primary cranking paths should be included in the BES, Bonneville does not envision a role for state regulators in ensuring reliable energy delivery through cranking paths.

Paragraph 71: To better understand the application of inclusion I4, we seek comment whether this provision includes, as part of the bulk electric system, the individual elements (from each energy-producing resource at the site through the collector system to the common point at a voltage of 100 kV or above) used to aggregate the capacity and any step-up transformers used to connect the system to a common point at a voltage of 100 kV or above.

Bonneville does not believe that inclusion I4 applies to each individual wind turbine or generator unit in a wind farm as a BES element. Rather, it includes the point at which the aggregation becomes large enough to meet the aggregate capacity threshold of 75 MVA.

Paragraph 73: For cases where the reactive power device is connected through a transformer designated in inclusion I1, we seek comment on whether both the reactive power device and the transmission elements connecting the reactive power device to the transformer are included as part of the bulk electric system pursuant to inclusion I5.

Bonneville supports excluding both the reactive device and the transformer from the BES if the device supports local distribution. Conversely, if the facilities provide reactive and voltage support to the BES, the reactive device and associated equipment, such as the transformer, should be classified as a BES facility.

Paragraph 76: Also, we seek comment to determine if the configurations covered by Conditions (a), (b), or (c) of exclusion E1 remove from the bulk electric system generation connected to a radial system that otherwise satisfies inclusion I2.

Bonneville believes that through consistent application of the proposed inclusions and exclusions there will not be a conflict.

Paragraph 79: The Commission seeks comment on whether each of the radial systems shown in figure 1, the 230 kV elements above each transformer to the

point of connection to each 230 kV line, respectively, are excluded from the bulk electric system pursuant to exclusion E1.

Bonneville has concerns with excluding the 230 kV in figure 1 without Transmission Operator and Planning Authority review. Systems between 200 kV and 300 kV have a much higher potential for serious impacts than systems below 200 kV, as described in more detail in Bonneville's comments on NOPR Paragraph 96.

Paragraph 80: We seek comment whether, in this configuration [in figure 2], the 115 kV and 230 kV elements above Transformers 1 and 2 to the points of connection to the two 230 kV lines would be excluded from the bulk electric system pursuant to exclusion E1. Is the configuration shown in figure 2 more appropriately analyzed pursuant to the "local network" exclusion E3 and, if so, what if any elements operated at or above 100 kV would be excluded pursuant to exclusion E3?

Bonneville believes that exclusion E3 would apply to the circuit in figure 2. This figure clearly shows a looped system, which meets exclusion E3. In Bonneville's assessment, everything to breaker 7 and breaker 8 would be exempt.

Paragraph 81: We seek comment on how to evaluate the configuration in figure 3 vis-à-vis the radial system definition and whether it is appropriate to examine the elements below 100 kV to determine if the configuration meets the exclusion E1 definition for radial systems. In other words, does figure 3 depict a system emanating from two points of connection at 230 kV and, therefore, the 230 kV elements above the transformers to the points of connection to the two 230 kV lines would not be eligible for the exclusion E1 notwithstanding the connection below 100 kV?

Bonneville does not see the system depicted in figure 3 as being eligible for the E1 exclusion because under Bonneville's analysis the system is not radial, exclusion E3 could potentially be applied starting at breaker 3 and breaker 4.

Paragraph 82: Accordingly, we seek comment regarding the specific circumstances that Conditions (b) and (c) [of exclusion E1] are intended to address.

Bonneville is comfortable with excluding radials as long as all conditions of exclusion E1 are met, and provided that all impacted parties must be involved in the decision-making process.

Paragraph 83: Because Condition (b) describes generation connected to a radial system with no load and Condition (c) describes generation connected to a radial system with generation and load, it appears that the power generated on these radial systems would, by design, be delivered or injected to the bulk electric system and transported to other markets. In this circumstance, it appears that a line 100 kV or above connected to a generator with a capacity 75 MVA or below would not be included in the bulk electric system. The Commission seeks comment on the appropriateness of excluding such radials.

Bonneville believes it is appropriate to exclude such radials on a generic basis, as long as the radials meet all conditions of exclusion E1. Individual radial lines may be designated as part of the BES through the exception process if an assessment finds that the radial sufficiently affects the BES.

Paragraph 87: We seek comment on NERC's characterization and whether the phrase "normally open" is subject to interpretation or misunderstanding, or whether a "normally open" configuration is potentially difficult to oversee. Further, we seek comment on the need of Transmission Operators or other functional entities to study the system impacts of the closing of a "normally open" switch, or to take other steps to ensure awareness of the impacts of the loop that is created by the closing of the switch if the closed loop is not included as part of the bulk electric system.

"Normally Open" is a consideration of the local Level of Service. Level of Service issues should be left to the local utility in coordination with the impacted Planning Authority, Transmission Operator and Balancing Authority.

Paragraph 89: In particular, as discussed in greater detail below, we seek comment on the following issues with respect to the application of exclusion E3: (1) whether generation resources are excluded by this exclusion; (2) how the exclusion applies to a looped lower voltage system; (3) whether the 300 kV ceiling is appropriate for the application of the exclusion; (4) whether the prohibition for generation produced inside a local network is not transporting power to other markets outside the local network applies in both normal and emergency operating conditions.

(1) Bonneville agrees that generation would be appropriately excluded if the generation were wholly contained within the local network.

(2) Bonneville believes the Transmission Operator and Planning Authority should be afforded the opportunity to analyze how the potential exclusion could impact the looped system.

(3) Bonneville thinks that 300 kV is not an appropriate ceiling for the exclusion, because systems between 200 kV and 300 kV have a much higher potential for serious impacts than systems below 200 kV. (Bonneville describes these impacts in more detail in its comments on NOPR Paragraph 96.)

(4) Bonneville agrees with the exclusion, provided there is no flow outside the local network.

Paragraph 94: We seek further explanation and comment on the statement above that “neither will the local network’s separation or retirement diminish the reliability of the interconnected electric transmission network.” While a radial facility emanates from one point of connection to the interconnected transmission network, a local network by definition has multiple points of connection to the interconnected transmission network. Thus, regarding a local network, a contingency situation may arise where one of the multiple connections to the interconnected transmission network separates, while other local network connections maintain connectivity with the bulk electric system. We seek comments to better understand how an entity with a candidate local network would analyze such contingencies to determine potential impacts to the reliable operation of the interconnected transmission network.

Bonneville is generally supportive of exclusion E3 because Local Networks are a common form of local distribution. Bonneville agrees as a general matter that Local Networks are not used to transfer bulk power from a location outside the Local Network, across the Network, for delivery to another location outside the Network, and this distinguishes Local Networks from bulk transmission facilities. While Bonneville generally agrees with E3, Bonneville strongly believes that the impacted Balancing Authority, Transmission Operator, and

Planning Authority must evaluate each request for exclusion to ensure the integrity of the bulk grid is not compromised.

Paragraph 95: We seek comment whether the configuration in figure 5 qualifies as a local network and, in particular, whether the configuration satisfies the condition that a local network consists of “a group of *contiguous* transmission Elements *operated at or above 100 kV....*”

Bonneville views figure 5 as a local network. Bonneville also notes that the network in figure 5 is operating at 69 kV. Therefore, the BES definition would not cover the network in the first instance, unless covered by an Inclusion, and no exclusions are necessary to remove it from the BES.

Paragraph 96: Accordingly, we seek comment whether (and why or why not) the 300 kV ceiling is appropriate for the application of exclusion E3 and requests examples of systems between 200 and 300 kV that would qualify for this exclusion.

Bonneville shares the Commission’s concern that the 300 kV ceiling may not “reflect[] actual system configurations that serve local distribution, the stated purpose of the local network exclusion.” Bonneville strongly believes that exclusion E3 should not apply to any facility above 200 kV, without appropriate review, analysis, and concurrence, from the impacted Transmission Operator, Planning Authority, and Reliability Coordinator. Fault magnitudes on systems between 200 kV and 300 kV are much higher than fault magnitudes on systems operated below 200 kV. Actual power flows on systems above 200 kV are also much higher. Hence, these systems have a much higher potential for serious impacts than networks operating below 200 kV if something fails to operate properly, including cascading outages, transient instability, and post-transient voltage instability.

Paragraph 106: The Commission seeks input from NERC and the industry, however, as to additional reforms that may be needed to the definition or to the

Rules of Procedure to ensure that, over the long term, the facilities necessary to the reliability of the interconnected transmission network are captured in its definition.

Bonneville appreciates the Commission's extensive examination of the revised BES definition and procedures. In addition to its specific comments, Bonneville requests that the Commission clarify the role of the impacted Balancing Authority, Transmission Operator, and Planning Authority in the initial stages of any requests for exclusions. These parties should be involved early in the process to avoid unintended consequences and potential conflict between the Balancing Authority, Transmission Operator, and member systems.

Paragraph 110: Thus, while we propose to approve the package of reforms submitted by NERC, we seek comment on how the relevant entities will seek inclusion of sub-100 kV elements to ensure that all facilities that are necessary for the operation of the bulk power system are designated as bulk electric system elements consistent with the discussion above. These comments also should aid NERC, industry, and the Commission in further efforts, already underway in Phase 2, to refine the bulk electric system definition, the inclusions and exclusions, and the exception process.

Bonneville requests that the Commission continue to recognize the need for flexibility. A number of organizations will need to be involved in the BES process. Bonneville supports the work of NERC's Standard Drafting Team and its vision that the Regional Entity would be the lead in an evaluation of the submitted exception documentation and would develop a recommendation for or against the request. Bonneville also supports the BES Drafting Team's Phase II process, which will continue to refine and clarify what is necessary for BES reliability. The Planning Authority, Transmission Operator, and Balancing Authority will provide critical input to inclusion and exclusion analyses, as well as the exception process. Their recommendations need to be reviewed and carefully considered. Additionally, the Commission should ensure that the Reliability Standards apply to entities that do not qualify as a classic

Transmission Owner or Transmission Operator. Another refinement is to have NERC provide a clear definition of the term “necessary” for BES reliability.

Paragraph 111: The Commission seeks comment on the role NERC should have in designating sub-100 kV facilities, and other facilities, for inclusion in the bulk electric system, directing Regional Entities or others to conduct such reviews, or itself nominating an element to be included in the bulk electric system.

Bonneville supports NERC’s Rules of Procedure (ROP) proposal, which gives the owner or operator of an element, plus the organizations with direct responsibility for reliability in the particular area affected by the element (including the Regional Entity, the Reliability Coordinator, the relevant Transmission Operator, and similar entities), the responsibility to seek an exception where an element is viewed as improperly excluded from the BES. Bonneville supports this approach because it assigns this responsibility to the entities with the greatest knowledge and technical expertise in the relevant area. The occurrence of improper exclusions can be reduced or avoided, however, if the appropriate entities are part of the exclusion process from the start.

Paragraph 112: We also seek comment on instances when the Commission itself should designate (or direct others to designate) sub-100 kV facilities, or other facilities, necessary for the operation of the interconnected transmission grid for inclusion in the bulk electric system.

Bonneville reiterates that the most technically appropriate approach is outlined in the ROP proposal, under which the entities with direct responsibility for reliability in the particular area affected by the element are primarily responsible for seeking an exception where an element is viewed as improperly excluded from the BES. Bonneville believes that the Commission (or NERC) should seek to include sub-100 kV facilities in the BES only in those instances where it can do so through a generic and broadly applicable revision to the definition, inclusions, or

exclusions. The directly affected regional organizations should initiate any case-by-case exception processes.

Paragraph 114: Further, we seek comment on whether NERC should modify the exception process to require Regional Entities to submit all proposed determinations to a technical review panel regardless of the recommendation and receive the panel's opinion on each request.

Bonneville agrees that the technical review panel should review all rejected requests. Reviewing all denials provides a layer of protection for exception requests to ensure they receive adequate technical assessment if they are denied. NERC should also select a statistical sampling of approved requests for review by the panel. Bonneville believes this review of a portion of approved requests will serve an important quality control function, without creating a duplicative or redundant approval process (as would be the case if the technical panel reviewed every approved recommendation).

Paragraph 124: Accordingly, we seek comment on whether NERC's proposal should be modified to include an obligation for the registered entity to inform NERC or the Regional Entity of the entity's self-determination through application of the definition and specific exclusions E1 through E4 that an element is no longer part of the bulk electric system.

Bonneville shares the Commission's concern and agrees that the Regional Entity needs to ensure that the registered entity informs all impacted parties, Reliability Coordinator, Balancing Authority, Planning Authority, Transmission Operator and NERC of the entity's self-determination.

Paragraph 133: Second, we seek comment on the reporting burden associated with exception requests. . . . [W]e estimate a range of 87 to 433 exception requests per year for each of the first two years after the effective date of a final rule. We request comment on this estimated range to assist the Commission in arriving at a final estimate of the number of possible exception requests.

Bonneville anticipates, based on customer feedback, that the Bonneville footprint alone will experience several hundred exception requests in the first two years, based on the element

by element per request. Bonneville will be actively monitoring, studying, and responding to each request to ensure system reliability.

Bonneville estimates the additional workload from evaluating the exception requests will be approximately five to six FTE. The assessment includes one full time coordinator, a customer service engineer for system verification, a planner to run studies, an operations engineer, and dispatch personnel for real-time system impacts.

Paragraph 135: The Commission seeks comment on the costs to comply with these requirements. These cost estimates are calculated using the average of the ranges suggested in the burden hour estimates.

Bonneville is concerned that the Commission is underestimating the costs and resources associated with reliability compliance. Bonneville disagrees with the Commission's estimated annual costs of \$39,414 for entities that are required to comply with new standards as a result of adopting the BES Definition. The Commission's figure vastly underestimates the actual effort and costs associated with compliance.

Bonneville is aware of many small entities within the WECC region that are registered and have experienced significantly higher compliance burdens than the Commission's estimate of approximately one-third of an FTE annually. In Bonneville's experience with its customers, the smallest customer impact is equivalent to at least one FTE, and larger customers have indicated they have an even higher burden.

The Commission's estimates also overlook indirect compliance costs and their impact on small and large entities alike. Bonneville disagrees with the Commission's conclusion that the compliance burden is not "a significant economic impact . . . because it should not represent a significant percentage of the operating budget." It is Bonneville's direct experience that

implementing a fully functioning compliance program requires committed personnel, budget, and resources, which is never insignificant.

CONCLUSION

Bonneville thanks the Commission for the opportunity to comment on the proposed BES definition. Bonneville believes that a crucial factor in maintaining reliability is to foster transparency, which will be achieved by ensuring that all affected parties are able to contribute to any determination to exclude facilities from the BES.

Respectfully submitted this 4th day of September, 2012.

/s/ Robert D. Davis
Robert D. Davis, Attorney
Bonneville Power Administration
Office of General Counsel – LT-7
P.O. Box 3621
Portland, OR 97208
Telephone: 503-230-5295
Facsimile: 503-230-7405
Email: rddavis@bpa.gov