

Project 2010-17 Definition of Bulk Electric System

Background Information

Purpose

In support of the ERO's ability to respond to Commission directives and recommendations, this project will address the issues raised by the Commission, the ERO, the Regional Entities, and the industry as stated in FERC Order No. 693 and Order No. 743. In Order No. 743, the Commission directed the following:

- A. Utilize the NERC Standard Development Process to revise the definition of Bulk Electric System (BES) contained in the NERC Glossary of Terms.
- B. Develop a single Implementation Plan to address the application of the revised definition of the BES and the implementation of the exemption process.
- C. Utilize the NERC Rules of Procedure to develop and implement an 'exemption process' used to identify Elements and Facilities which will be included in or excluded from the BES.

This project will address items 'A' and 'B' and will coordinate efforts between the Standard Drafting Team (SDT) and the group working to develop the exemption process for inclusion in the NERC Rules of Procedure to ensure that the revised BES definition and exemption process result in an accurate, repeatable, and transparent method for the identification of BES and non-BES Elements and Facilities.

Introduction

The Regional Bulk Electric System Definition Coordination Group was established at the request of NERC senior management, prior to the issuance of Order 743, to gain continent-wide consistency in a revised definition of the Bulk Electric System (BES). The results of several industry driven Regional (FRCC, NPCC, RFC, and WECC) projects addressing the issue were compared and consolidated to achieve a common approach to defining the BES.

The Regional Bulk Electric System Definition Coordination Group is proposing a common approach to defining the BES to provide for improved clarity, to reduce ambiguity, and to establish a universal method ("bright-line") of distinguishing between BES and non-BES Elements and Facilities that is reflected in the Standards Authorization Request (SAR).

A common approach to the identification of BES Elements and Facilities will establish a repeatable method of correctly applying the NERC Reliability Standard requirements by the industry and facilitate consistent application of compliance efforts by the entities involved

internally and across Regional boundaries (i.e., FERC, ERO, Regional Entities, and registered entities).

This proposal would provide consistency across the nation's reliability regions by establishing a BES 'Framework' definition and a common set of criteria that clearly provide guidance for determining what constitutes BES and non-BES Elements and Facilities. The BES 'Framework' will also allow for application of 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) consistent with the criteria to technically assess whether or not an Element or Facility should be included or excluded from the BES as exceptions to the definition and criteria (with concurrence from the ERO). The development, approval, and utilization of the exemption process will be governed by revisions to the NERC Rules of Procedure to address this specific issue.

Proposed BES Criteria

The Regional Bulk Electric System Definition Coordination Group proposed a set of criteria for the identification of BES Elements and Facilities recommended for inclusion in the proposed continent-wide definition of BES:

1. Transformers, other than Generator Step-up (GSU) transformers, including Phase Angle Regulators, with both primary and secondary windings of 100 kV or higher;
2. 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;
3. 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;
4. Blackstart Resources and the designated blackstart Cranking Paths identified in the Transmission Operator's (TOP's) restoration plan;
5. Transmission Elements or Facilities operated at voltages below 100kV where the exemption process deems the Element or Facility to be included in the BES;
6. 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; and
7. 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.

The proposed criteria recommended for the exclusion of Elements and Facilities from the BES consist of:

1. 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;
2. 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); and
3. 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.

These criteria will be vetted by the industry through the Standards Development Process via industry comments and eventual ballot. As envisioned, criteria that are applicable on a continent-wide basis will be added to the definition of BES; criteria that apply in some, but not all areas, will be addressed through the exemption process.