**Unofficial Comment Form**Regional Reliability Standard BAL-001-TRE-01

Please **DO NOT** use this form. Please use the [electronic form](https://www.nerc.net/nercsurvey/Survey.aspx?s=3cb8efc295424ea18bd80d093cd1e020) to submit comments on the Regional Reliability Standard BAL-001-TRE-1. Comments must be submitted by **July 15, 2013.** If you have questions please contact Howard Gugel at [howard.gugel@nerc.net](mailto:howard.gugel@nerc.net) or Stephen Eldridge at [stephen.eldridge@nerc.net](mailto:stephen.eldridge@nerc.net).

<http://www.nerc.com/pa/Stand/Pages/RegionalReliabilityStandardsUnderDevelopment.aspx>

**Background Information**

A regional reliability standard shall be: (1) a regional reliability standard that is more stringent than the continent-wide reliability standard, including a regional standard that addresses matters that the continent-wide reliability standard does not; or (2) a regional reliability standard that is necessitated by a physical difference in the bulk power system. Regional reliability standards shall provide for as much uniformity as possible with reliability standards across the interconnected bulk power system of the North American continent. Regional reliability standards, when approved by FERC and applicable authorities in Mexico and Canada shall be made part of the body of NERC reliability standards and shall be enforced upon all applicable bulk power system owners, operators, and users within the applicable area, regardless of membership in the region.

**BAL-001-TRE-01** was developed to maintain Interconnection steady-state frequency within defined limits by balancing real power demand and supply in real-time.

Each **Texas Reliability Entity (TRE)** Regional Reliability Standard shall enable or support one or more of the NERC reliability principles, thereby ensuring that each standard serves a purpose in support of the reliability of the regional bulk electric system. Each of those standards shall also be consistent with all of the NERC reliability principles, thereby ensuring that no standard undermines reliability through an unintended consequence. The NERC reliability principles supported by this standard are the following:

* Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform under normal and abnormal conditions as defined in the NERC Standards.
* The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
* Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
* The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.

The proposed **TRE** Regional Reliability Standard is not inconsistent with, or less stringent than established NERC Reliability Standards. Once approved by the appropriate authorities, the **TRE** Regional Reliability Standard obligates the **TRE** to monitor and enforce compliance, apply sanctions, if any, consistent with any regional agreements and the NERC rules.

**BAL-001-TRE-01 Requirements**

**R1**. The BA shall identify Frequency Measurable Events (FMEs), and within 14 calendar days after each FME the BA shall notify the Compliance Enforcement Authority and make FME information (time of FME (t(0)), pre-perturbation average frequency, post-perturbation average frequency) publicly available.

**R2**.The BA shall calculate the Primary Frequency Response of each generating unit/generating facility in accordance with this standard and the Primary Frequency Response Reference Document.1 This calculation shall provide a 12-month rolling average of initial and sustained Primary Frequency Response performance. This calculation shall be completed each month for the preceding 12 calendar months.

**R3**. The BA shall determine the Interconnection minimum Frequency Response (IMFR) in December of each year for the following year, and make the IMFR, the methodology for calculation and the criteria for determination of the IMFR publicly available.

**R4**. After each calendar month in which one or more FMEs occurs, the BA shall determine and make publicly available the Interconnection’s combined Frequency Response performance for a rolling average of the last six (6) FMEs by the end of the following calendar month.

**R5**. Following any FME that causes the Interconnection’s six-FME rolling average combined Frequency Response performance to be less than the IMFR, the BA shall direct any necessary actions to improve Frequency Response, which may include, but are not limited to, directing adjustment of Governor deadband and/or droop settings.

**R6**. Each GO shall set its Governor parameters as follows:

**6.1** Limit Governor deadbands within those listed in Table 6.1, unless directed otherwise by the BA.

Table 6.1 Governor Deadband Settings

|  |  |
| --- | --- |
| **Generator Type** | **Max. Deadband** |
| Steam Turbines with Mechanical Governors | +/- 0.034 Hz |
| All Other Generating Units/Generating Facilities | +/- 0.017 Hz |

**6.2** Limit Governor droop settings such that they do not exceed those listed in Table 6.2, unless directed otherwise by the BA.

|  |  |  |  |
| --- | --- | --- | --- |
| **Generator Type** | **Max. Deadband** | | |
| Steam Turbines with Mechanical Governors | +/- 0.034 Hz | | |
| All Other Generating Units/Generating Facilities | +/- 0.01666 Hz | | |
| Generator Type | | Max. Droop% Setting | | |
| Hydro | | 5% | | |
| Nuclear | | 5% | | |
| Coal and Lignite | | 5% | | |
| Combustion Turbine (Simple Cycle and Single-Shaft Combined Cycle) | | 5% | | |
| Combustion Turbine (Combined Cycle) | | 4% | | |
| Steam Turbine (Simple Cycle) | | 5% | | |
| Steam Turbine (Combined Cycle)\* | | 5% | | |
| Diesel | | 5% | | |
| Wind Powered Generator | | 5% | | |
| DC Tie Providing Ancillary Services | | 5% | | |
| Renewable (Non-Hydro) | | 5% | | |
| **Generator Type** | | | **Max. Droop% Setting** | |
| ydro | | | 5% | |
| Nuclear | | | 5% | |
| Coal and Lignite | | | 5% | |
| Combustion Turbine (Simple Cycle and Single-Shaft Combined Cycle) | | | 5% | |
| Combustion Turbine (Combined Cycle) | | | 4% | |
| Steam Turbine (Simple Cycle) | | | 5% | |
| Steam Turbine (Combined Cycle)\* | | | 5% | |
| Diesel | | | 5% | |
| Wind Powered Generator | | | 5% | |
| DC Tie Providing Ancillary Services  **Generator Type** | | | Max. Droop% Setting  **Generator Type** | | **Max. Droop% Setting** |
| Providing Ancillary Services  **Generator Type** | | | Max. Droop% Setting  **Generator Type** | | Max. Droop% Se |

Table 6.2 Governor Droop Settings

|  |  |
| --- | --- |
| **Generator Type** | **Max. Droop % Setting** |
| Hydro | 5% |
| Nuclear | 5% |
| Coal and Lignite | 5% |
| Combustion Turbine (Simple Cycle and Single-Shaft Combined Cycle) | 5% |
| Combustion Turbine (Combined Cycle) | 4% |
| Steam Turbine (Simple Cycle) | 5% |
| Steam Turbine (Combined Cycle)\* | 5% |
| Diesel | 5% |
| Wind Powered Generator | 5% |
| DC Tie Providing Ancillary Services | 5% |
| Renewable (Non-Hydro) | 5% |

\*Steam Turbines of a combined cycle resources are required to comply with Requirements R6.1, R6.2 and R6.3. Compliance with Requirements R9 and R10 will be determined through evaluation of the combined cycle facility using an expected performance droop of 5.78%.

**6.3**. For digital and electronic Governors, once frequency deviation has exceeded the Governor deadband from 60.000 Hz, the Governor setting shall follow the slope derived from the formula below.

For 5% Droop: Slope =

For 4% Droop: Slope =

where MWGCS is the maximum megawatt control range of the Governor control system. For mechanical Governors, droop will be proportional from the deadband by design.

**R7** Each GO shall operate each generating unit/generating facility that is connected to the interconnected transmission system with the Governor in service and responsive to frequency when the generating unit/generating facility is online and released for dispatch, unless the GO has a valid reason for operating with the Governor not in service and the GOP has been notified that the Governor is not in service.

**R8**. Each GOP shall notify the BA as soon as practical but within 30 minutes of the discovery of a status change (in service, out of service) of a Governor.

**R9** Each GO shall meet a minimum 12-month rolling average initial Primary Frequency Response performance of 0.75 on each generating unit/generating facility, based on participation in at least eight FMEs.

**R10** Each GO shall meet a minimum 12-month rolling average sustained Primary Frequency Response performance of 0.75 on each generating unit/generating facility, based on participation in at least eight FMEs.

The approval process for a regional reliability standard requires NERC to publicly notice and request comment on the proposed standard. Comments shall be permitted only on the following criteria (technical aspects of the standard are vetted through the regional standards development process):

**Unfair or Closed Process —** The regional reliability standard was not developed in a fair and open process that provided an opportunity for all interested parties to participate. Although a NERC-approved regional reliability standards development procedure shall be presumed to be fair and open, objections could be raised regarding the implementation of the procedure.

**Adverse Reliability or Commercial Impact on Other Interconnections —** The regional reliability standard would have a significant adverse impact on reliability or commerce in other interconnections.

**Deficient Standard —** The regional reliability standard fails to provide a level of reliability of the bulk power system such that the regional reliability standard would be likely to cause a serious and substantial threat to public health, safety, welfare, or national security.

**Adverse Impact on Competitive Markets within the Interconnection —** The regional reliability standard would create a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability.

**Questions**

You do not have to answer all questions. Enter comments in simple text format. Bullets, numbers, and special formatting will not be retained.

1. **Do you agree the proposed standard is being developed in a fair and open process, using the associated Regional Reliability Standards Development Procedure?**

Yes

No

Comments:

1. **Does the proposed standard pose an adverse impact to reliability or commerce in a neighboring region or interconnection?**

Yes

No

Comments:

1. **Does the proposed standard pose a serious and substantial threat to public health, safety, welfare, or national security?**

Yes

No

Comments:

1. **Does the proposed standard pose a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability?**

Yes

No

Comments:

1. **Does the proposed regional reliability standard meet at least one of the following criteria?**

* **The proposed standard has more specific criteria for the same requirements covered in a continent-wide standard**
* **The proposed standard has requirements that are not included in the corresponding continent-wide reliability standard**
* **The proposed regional difference is necessitated by a physical difference in the bulk power system.**

Yes

No

Comments: