NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Frequency Response Technical Conference

Frequency Response – Responsible Entity

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RELIABILITY | ACCOUNTABILITY

Responsible Entity

- Comments have been received that the BA should not be responsible for FR.
- There is a desire to address the identified reliability issue in a timely manner.
- The SAR could be expanded to address other Responsible Entities, but this will delay the process.
- The Drafting Team recommends that Balancing Authorities have responsibility for Frequency Response under this standard.

Functional Model Support

- Balancing Authority description in Version 5 of Functional Model states:
  - Under Tasks, BA needs to “Operate the Balancing Authority Area to contribute to Interconnection frequency”
  - Under Relationships, BA “Acquires reliability-related services from Generator Operator.”

FM Technical Document

- Maintaining resource-demand balance within the Balancing Authority Area requires … resource management, all of which are the Balancing Authority's responsibility:
  - **Frequency control through tie-line bias**. To maintain frequency within acceptable limits, the Balancing Authority controls resources within its Balancing Authority Area to meet its frequency bias obligation to the Interconnection.

FM Technical Document cont

- **Failure to balance**. The Balancing Authority must take action, either under its own initiative or direction by the Reliability Coordinator, if the Balancing Authority cannot comply with NERC's Reliability Standards regarding frequency control and Area Control Error.

Generator Operator

- The Generator Operator could be given some responsibility for Frequency Response
- Reasons include
  - Majority of Frequency Response traditionally has come from generators
  - Governor control settings significantly impact response from individual generators

Generator Operator

- Functional Model Tasks
  - Operate generators to provide real and reactive power or reliability-related services per contracts or arrangements.
  - Support Interconnection frequency
- Functional Model Real Time Relationship
  - Adjusts real and reactive power ***as directed*** by the Balancing Authority and Transmission Operators. (emphasis added)

Issues with GOP Inclusion

- Some generators may be incapable of responding or have valid reasons not to respond
  - Generator at minimum or maximum, regulatory or environmental limitations, generator may have no governor, etc. all impact a generator's ability to respond.
- Magnitude of measurement process would be expanded significantly
  - 106 BAs registered compared to 4,000 to 20,000 generators, depending on size.
- Other technologies could provide response in the future.
- Response from a subset of generation provides sufficient response to maintain reliability

Additional Issues

- Transmission Tariff Interactions
  - Imbalance Penalties charged to generators due to differences between schedule and actual
  - Order 890 Paragraphs 650 and 672.
- Market Rules/Tariffs can have similar issues
- Ancillary Services rules
- Balancing generator efficiency and interconnection reliability
- Compensation issues

SDT Recommendation

- Move forward with the BAL-003 standard with BA responsibility
  - Allows identified gap to be addressed
- If members of industry believe a standard related to generator control is needed, submit a SAR to begin that process.
  - The current processes related to Generator Verification should be reviewed as part of any effort

Questions