

WECC Compliance Presentation to the WIRAB

Presented By

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Overview of Items to be Covered

- Physics and Operations of the System
- Existing RMS Standards
- NERC Version 0 Standards
- NERC Version 1 Standards
- Transition from Version 0 to Version 1
- Delineation between reliability and economic issues
- Address FERC's rulemaking on Reliability Standards



Transmission Overview

2006 COMPLIANCE ENFORCEMENT PROGRAM

WECC Reliability Management System⁴

- WECC Assessment of 14 Operating Requirements
 - Some overlap with NERC CEP Requirements
- Voluntary Participation
 - Contractual Agreement
 - Mandatory Compliance
 - Monetary Sanctions for noncompliance
- Includes an appeals process
- While not all WECC members are signatories, all provide requested information.

WECC Reliability Management System

- DCS
- Operating Reserves
- CPS1 and CPS2
- OTC
- AVR
- PSS
- Op Limits to Sys. Op.
- Certification of Prot. Relay Settings
- Certification of RAS
- Relay and RAS misoperation
- E-Tag Requirements
- Operator Certification
- Q-Path USF Relief
- Trans. Maintenance Std. (includes RAS)

WECC Reliability Management System

- Disturbance Control Standard (DCS) - Requirement for each BA to have reserves available to return Interconnection frequency to within defined limits following a Disturbance.
- Operating Reserves - Measures the average operating reserve for the hour.
- CPS1 & CPS2 - Each Control Area shall monitor its control performance on a continuous basis to ensure that Area Control Error (ACE) is within specified limits.

WECC Reliability Management System

- OTC - Requirement to keep major path flows within Operating Transfer Capability (OTC) limits.
- AVR - Synchronous generators equipped with Automatic Voltage Regulators shall keep the AVR in service to the maximum extent possible.
- PSS - Synchronous generators equipped with Power System Stabilizers shall keep the PSS in service to the maximum extent possible
- Op. Limits to Sys. Op. - Requirement for Seasonal Operating Limits to be provided for a specified set of Transmission Paths to operating personnel.

WECC Reliability Management System

- Certification of Protection Relay Settings - Documentation that certain identified requirements pertaining to Protection Relay have been met.
 - All protective relay applications and are appropriate for the BPTP identified in Table 2 of the Reliability Criteria Agreement pursuant to applicable WECC Standards and NERC Standards;
 - The BPTP protective relay settings and logic are appropriate pursuant to applicable WECC Standards and NERC Standards;
 - The BPTP relay schemes have been coordinated among all path owners during the past year;

WECC Reliability Management System

- Since the last certification or for the last three years all network changes in the path, at the terminals of the path, or in nearby facilities that affect operation of the path have been considered in the protective relay application and settings;
- All relay operations since the last certification or during the last three-year period have been analyzed for correctness and appropriate corrective action taken pursuant to applicable WECC Standards and NERC Standards;
- If the line or BPTP is an interconnection with another system, the relay schemes settings and applications have been coordinated with the interconnected neighbor during the past year; and

WECC Reliability Management System

- Up-to-date relay information has been provided to the on-shift operating personnel and the appropriate Reliability Coordinator.

WECC Reliability Management System

- Certification of RAS - Documentation that certain identified requirements pertaining to RAS Schemes have been met.
 - All Remedial Action Schemes ("RAS") identified in Table 3 are appropriate to meet all WECC Reliability Criteria for the BPTP pursuant to applicable WECC Standards and NERC Standards;
 - The RAS settings and logic are appropriate pursuant to applicable WECC Standards and NERC Standards;
 - The RAS applied to BPTP has been coordinated among all the path owners during the past year;

WECC Reliability Management System

- Since the last certification or for the last three years all network changes in the path, at the terminals of the path, or in nearby facilities that affect operation of the path have been considered in the RAS applications and settings;
- All RAS operations since the last certification or during the last three-year period have been analyzed for correctness and appropriate corrective action taken pursuant to applicable WECC Standards and NERC Standards;
- If the line or BPTP is an interconnection with another system, the RAS scheme(s) have been coordinated with all interconnected neighboring systems and other affected parties during the past year; and

WECC Reliability Management System

- Up-to-date RAS information has been provided to the on-shift operating personnel and the appropriate Reliability Coordinator.

WECC Reliability Management System

- Relay and RAS misoperation - Specific requirements for each known or probable relay misoperation.
- If functionally equivalent protective relaying or RAS remains in service to ensure bulk transmission system reliability; the relay or RAS that misoperated is to be removed from service for repair within specified time limits. The relay or RAS shall be replaced, repaired, or modified such that the incorrect operation will not be repeated.

WECC Reliability Management System

- If functionally equivalent protective relaying or RAS does not remain in service that will ensure bulk transmission system reliability, and the relay or RAS that misoperated cannot be repaired and placed back in service within 22 hours, the associated transmission path facility must be removed from service. The remaining path facilities, if any, must be de-rated to a reliable operating level.

WECC Reliability Management System

- If the relay or RAS misoperates and there is some protection but not entirely functionally equivalent, the relay or RAS must be repaired or removed from service within 22 hours. The associated transmission may remain in service; however, system operation must fully comply with WECC and NERC operating standards. This may require an adjustment of operating levels.
- Protective relays or RAS removed from service must be repaired or replaced with functionally equivalent protective relays or RAS within 20 Business Days of removal, or the system shall be operated at levels that meet WECC Standards and NERC Standards or the associated transmission path elements shall be removed from service.

WECC Reliability Management System

- E-Tag Requirements - Requirements for Tagging Service Availability and Tag Processing.
- Operator Certification - Requirement for Balancing Authority, ISO, RTO, and Reliability Coordinator Operators to be NERC Certified.
- Q-Path USF Relief - Requirement for members to comply with requests to take actions that will reduce unscheduled flow on specific Qualified Paths.
- Transmission Maintenance Standard - Identified transmission facilities shall be inspected and maintained in accordance with requirements of the Standard.

NERC Version 0 Standards

- Result of August 2003 Blackout
- Existing Templates and Policies needed “crisping”
- No changes to existing Templates and Policies
 - Only clarifying language changes and format changes allowed
- Not a standards development action, but a “translation” of existing requirements

NERC Version 0 Standards

- 90 Standards were translated
- The 90 Standards include 802 Requirements
- Some are missing compliance elements
 - Measurements
 - Levels of non-compliance
- 23 Standards were not translated
 - No field testing
 - Controversial comments from field testing

NERC Standards Elements

- Identification Number
- Title
- Effective Date
- Purpose
- Requirements
- Measures
- Compliance Monitoring Process
- Levels of Non-Compliance

NERC Version 1 Standards

- Continued Standards Development beyond Version 0 translation effort.
 - Addresses 23 Standards not originally translated in the Version 0 effort
 - Modifications to existing Version 0 Standards
- Standard Authorization Request (SAR) identifies specific action on each Standard
- Up to approximately 115 Standards
 - Continue to approve new standards
 - 860+ requirements

NERC Version 1 Standards

- NERC is posting many standards for review and comment or balloting
 - WECC notifies membership of activity
 - WECC subgroups assigned to review and provide comments on standards as they are posted
 - WECC develops position papers identifying key concerns or pros and cons of a proposed standard for ballot
- Must be a member of the Registered Ballot Body (RBB) to vote
 - Must join a ballot pool for each standard

Reliability vs. Economic Issues

- Standards must support each of the following market interface principles.
 - The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy.
 - A reliability standard shall not give any market participant an unfair competitive advantage.
 - A reliability standard shall neither mandate nor prohibit any specific market structure.
 - A reliability standard shall not preclude market solutions to achieving compliance with that standard.
 - A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.

Reliability vs. Economic Issues

- Economic Consideration is one reason a regional standard developed on an interconnection wide basis would not be presumed to be valid
 - Would create a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability.

FERC Rulemaking on NERC Standards

- FERC Review of Reliability Standards
 - Recommendations from the 2003 Blackout Report need to be fully implemented in the standards.
 - 25 need compliance elements
 - Measures
 - Levels of non-compliance
 - Many “Fill in the Blank” Standards
 - Some lack key terms
 - Vagueness
 - May be interpreted differently
 - Deficient technically
 - Need to be more proactive

FERC Rulemaking on NERC Standards

- Does not recommend remand of the standards
- Technical Conferences will be held
- FERC has directed NERC to respond to the report by June 26
 - FERC is also accepting comments from the public
 - Docket RM06-16