

## Summary of the April 21, 2010 WIRAB Meeting

The following members participated in the April 21 WIRAB meeting in Portland:

Alberta	Ian McKay
British Columbia	Scott Barillaro
California	Bill Chamberlain
Colorado	Morey Wolfson; Jim Tarpey
Idaho	Marsha Smith
Montana	Tom Kaiserski
Oregon	John Savage
Nevada	Rebecca Wagner
South Dakota	Brian Rounds
Utah	Dianne Nielsen
Washington	Tony Usibelli
Wyoming	Steve Ellenbecker

Chairman John Savage opened the meeting, welcomed all participants, and reviewed the agenda.

### **Review of Key Reliability Issues: FERC, NERC, WECC**

The first session was a review of “burning” grid reliability issues by Joe McClelland (Director, FERC Office of Reliability), Gerry Cauley (NERC CEO, joining by phone), and David Areghini (Salt River Project; WECC Board Chair). FERC Chairman Jon Wellinghoff contributed in the question and answer.

Joe McClelland focused on the question “what keeps you up at night.” He recalled the 2007 study by Idaho National Laboratory, concluding that generators are subject to cyber attack, and the subsequent inquiry from the House Committee on Homeland Security to FERC regarding capabilities for mitigating cyber attacks and the need for additional FERC authority to address cyber security issues. In May 2008, then-FERC Chairman Kelliher reported that FERC did not have sufficient authority to address cyber-security vulnerabilities; the Section 215 process is too open and too slow to effectively address cyber-security. In February 2008, the U.S. Department of Defense reported that critical missions are at risk due to their reliance on the bulk power system.

McClelland mentioned two current bills that would give FERC additional authority. The Markey-Waxman bill would give FERC authority to act if the President identifies an imminent threat, and require standards regarding backup transformers, limiting impacts of solar magnetic disturbances, and addressing vulnerabilities identified in the “Aurora” test. The Bingaman bill (part of the Senate Energy bill) focuses on cyber security.

McClelland expressed FERC’s support for Smart Grid development, but noted that, by increasing the volume of two-way communication, it creates opportunities for denial of service or corruption of data attacks. FERC intends to address these issues as it promotes Smart Grid development.

Dave Areghini observed that while in the 1990s the industry was reorganizing its assets, now it is “toying with physics”—adding synchro-phasors, integrating variable generation, developing the Smart Grid. These can provide greater capability, but also make us more vulnerable. He noted that the industry faces a large number of retirements of experienced personnel, and that the U.S. no longer has a manufacturer of large transformers, which makes them more difficult to obtain.

While Areghini supports the development of results-based standards, he notes that these are no panacea. Experienced people and good training are still critical to reliability. He noted that the nuclear industry Institute of Nuclear Power Operations (INPO) model may be useful in the electric industry.

Gerry Cauley (participating by phone) reviewed NERC’s current efforts in standards development, compliance, and cyber-security. Regarding standards development, NERC is focused on though-put from the (results-based) standards development process, on clarifying for each requirement what needs to be done with what outcome, and on providing informal guidance—for example, in the form of “frequently-asked questions.” NERC is providing technical writing support to the standards drafting teams. Cauley noted the need for greater urgency in the drive the complete standards, including accelerating standards development in response to FERC directives. He noted the volume of requests for interpretation of standards and said that NERC should publish informal guidance on how compliance is interpreting standards.

Regarding compliance, NERC is moving towards a risk-based approach, focusing on standards involving the greatest risk and entities with subpar performance. At 150 violations per month, the caseload is still high. In the electric industry (unlike the mining industry) violations are mitigated. More than half of the new violations are related to cyber-security, and the percentage may increase. When all critical assets are properly identified, the number of CIP violations may further increase.

Regarding cyber-security, Cauley focused on the strategic objective. With such widely distributed assets in the bulk power system, it is not possible to protect all critical assets everywhere. The idea is to protect the most critical assets, and to be able to respond quickly to restore service. Chairman Wellinghoff added that FERC is concerned about the numerous points of entry to the Smart Grid, and will promulgate rules (under development at NIST) which will include a cyber-security component.

Bill Chamberlain (CA) asked about the WECC BAL-002 standard, which FERC recently remanded.<sup>1</sup> WECC’s proposed revision would replace the old 5% hydro/7% thermal reserves requirements with a new requirement that reserves be 3% of load plus 3% of generation—a level nearly double the national standard. McClelland acknowledged that FERC decision was difficult. In reading the proposed standard’s “plain language,” FERC was concerned that EOP-001 (regarding load-shedding steps) could be violated. McClelland agreed that data is important, and was happy to see a presentation on frequency response reserves on the WIRAB agenda. He said that FERC agrees with WIRAB that the stringency of regional standards can be reduced, provided the regional standard continues to exceed the stringency of the NERC standard.

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<sup>1</sup> [http://www.nerc.com/docs/standards/rfs/BAL\\_002\\_WECC\\_1\\_11March2008.pdf](http://www.nerc.com/docs/standards/rfs/BAL_002_WECC_1_11March2008.pdf)

Steve Ellenbecker (WY) asked about the role of cost allocation as we upgrade the grid. Wellinghoff agreed that we need to develop standards for a more dynamic grid. This will involve cost allocation amongst more diverse supply side and demand side resources.

Marsha Smith (ID) asked about the recent FERC policy<sup>2</sup> on penalty guidelines, which used federal sentencing guidelines as the model. Wellinghoff responded that the guidelines apply only to FERC investigations, not to NERC or WECC penalty determinations. FERC has suspended the guidelines for 60 days to allow for further comment. In response to a follow-up question, Wellinghoff said that the size of the entity will be considered in application of the guidelines.

John Savage (OR) asked whether the currently proposed cyber security bills will pass, and what is FERC doing to prepare. Wellinghoff said he expects a cyber-security bill will pass. McClelland added that the differences between the House and Senate bills can be resolved. In preparation, FERC (along with DOE, DHS and DOD) is reviewing the vulnerabilities of equipment to solar attack (the report is nearing completion), and is working with NERC to move classified information on to an unclassified form that can be acted on.

In response to a question about what should PUCs do, McClelland recommended that commissions get educated on the devices that may be vulnerable, their shelf lives, and whether they are upgradable. Gerry Cauley added his view that federal legislation is imminent, and will require standards on equipment. States will be involved in determining how to pay for the upgrades, and in the tradeoffs of reliability benefits and costs, given the mix of civilian and military vulnerabilities.

Savage asked about FERC's view of "results-based standards." Wellinghoff indicated he like the direction of the work, but such standards must retain the ability to audit compliance. Cauley noted that NERC and FERC staff are in alignment that results-based standards should not lower the bar for reliability.

Areghini suggested that the states should get presentations from utilities regarding what is being done now. Savage asked whether FERC would participate if states conduct briefings. Wellinghoff said "absolutely."

Doug Larson (WIRAB staff) asked how broken does FERC think the FERC-NERC-WECC standards process is. Wellinghoff acknowledged that the process is complicated and cumbersome. FERC can approve standards but cannot write them; NERC can write standards but not approve them. The hope is to streamline the process, to create a reliable system at reasonable cost. FERC has initiated a "larger dialogue" (including IOU CEOs and public power executives) on the issue.

Marsha Smith (ID) asked about FERC's view of WIRAB. Is WIRAB focused on the right issues? Does FERC want to hear more or less from WIRAB? Wellinghoff said that WIRAB is helpful. If its meetings were not useful, people would not attend. Areghini said that the WECC-WIRAB relationship is good, and that WECC values the WIRAB perspective.

## **Frequency Response Reserves**

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<sup>2</sup> <http://www.ferc.gov/whats-new/comm-meet/2010/031810/M-1.pdf>

Don Watkins (BPA, WECC Operating Committee Chair) discussed the issue of frequency response reserves--in general and in the Western Interconnection. He reviewed the process of matching generation with constantly changing load in an AC interconnection. When frequency drops (due to a load increase, or generation decrease) governors and reserves combine to limit the drop and restore frequency to 60 cycles. When motors slow down, they use less power and reserves are needed to prevent them from tripping off. A Frequency Responsive Reserve standard should ensure that adequate reserves, responding in a predictable way, are available. A proposed WECC FRR standard was voted down, and a task group has been formed to address the issue. WECC is coordinating with a WECC study of the issue.

### **NERC Reliability Assessments**

Mark Lauby (NERC Director of Reliability Assessments and Performance Analysis) reviewed three NERC studies, all nearing completion: (1) Rapid demand growth after a long-term recession; (2) Impacts of four prospective environmental regulations that can affect fossil fuel plant retirements; and (3) Reliability impacts of climate change initiatives. Questions addressed the modeling tools used in the studies and the measures applied (e.g. simple reserve margins, not impacts to frequency).