

Meeting Notes

Reliability-based Control SDT — Project 2007-18

June 24, 2008 | 8 a.m.–5 p.m.

June 25, 2008 | 8 a.m.–5 p.m.

June 26, 2008 | 8 a.m.–5 p.m.

Doubletree Hotel
322 N. Spokane Falls
Spokane, WA 99201
509-455-9600

1. Administrative

a. Introductions of team members and review roster — Mr. Hils led introductions:

- Mike Potishnak
- Larry Akens
- LeRoy Patterson
- Eddy Lim (FERC)
- Clyde Loutan
- Doug Hils
- Steve Myers
- Glenn Stephens
- Sydney Miemeyer
- Bill Herbsleb
- Steve Crutchfield
- Tom Siegrist

b. NERC Antitrust Compliance Guidelines — Mr. Hils led a review of the NERC Antitrust Compliance Guidelines.

2. Draft Standard Development and Review

Mr. Hils led a discussion of our work plan and meeting dates. We discussed the products that we plan to post and approximate dates for posting for comment.

a. Discuss FERC Order 693 directives for BAL standards — Mr. Hils led a review of the FERC directives relating to the BAL standards (see draft letter).

- b. Draft, compile, and evaluate additional requirements that the RBCSDT wants to include in the standards.
- c. Determine the additional items, parameters, and requirements that the RBCSDT wants to include in the field trials based on the above.
- d. Begin to compile and prepare questions that the RBCSDT wants to ask the industry, approximately during the month of August. (In conjunction with e below)
- e. Evaluate SAR Purpose Statements B, C, D, laundry list (that was compiled during April meeting).

B. To support corrective action by the BA when its excessive Area Control Error, as determined by this standard, may be contributing to or causing action to be taken to correct an SOL or IROL problem.

- Looking at Doug's CPS1 and BAAL graph, we would look at the addition of a horizontal line on the BAAL elliptical graph. The high and low lines could be symmetrical or asymmetrical (they do not have to be reflective). The calculation criteria for these proposed limits need to be established.
- The calculation of the limits could be calculated no less than some period, but could be calculated dynamically. What information should be considered in the determination? Would this be determined by the Transmission Operator, Transmission Service Provider, NERC, or other entity? What would prompt an entity to calculate this dynamically? Should we start out with a static value to put through the Field Trial to find out whether there is a need to calculate the value more often?
- Where does transmission loading relief (TLR) procedures fit into this operation?
- If we operate to an ACE "cap", we can gather data to see if the constraint that the cap was based upon, is a factor at times when the BA operated near the cap (static value for the bound).
- Regarding magnitude of the transmission control in the WECC — to help us better understand, what magnitudes were changed due to transmission operations?
- What would be the methodology used?
- Is there a way to look at the field test historical data to see how the new methodology would affect the results?
- Is there a way to look at the data to see what impact such limits would have? Yes.
- Are we looking at cross-BA interfaces or internal limits also? Flowgates might be the way to approach this.

- Use Firm Transmission.
- Make sure the solution is global.
- Limit determined applicable to the Balancing Authority.
- The result should not be that ACE is biased to fix transmission problems. If the BA is instructed by the RC or TOP to take certain action, should that amount be factored into the ACE?
- Get a copy of the “Balance ACE Limit Proof of Concept presentation” from Doug.

C. To prevent Interconnection frequency excursions of short-duration attributed to the ramping of Interchange Transactions.

- Should we modify C to include any coincident event at the on/off peak transition as opposed to ramping of interchange (e.g., turning on/off pumps, etc)?
- Need to ensure the new requirements do not conflict with INT standards. What are we intending to achieve with the BAAL standards?
- Ramp Resources and Sinks Technical Paper — Raymond Vice
- Spinning reserves (frequency responsive) are the only type of regulating reserves available.
- Ramp evaluation — INT standards R1.1.2 Ramp (ability of generation maneuverability to accommodate), Broaden to include all aspects of operation in the ramp evaluation?
- Business practice to move to 20 minute default ramp in Eastern Interconnection might help; however, it would not address the problem in the West as 20 minute ramp is already in place.
- Should BAs be limited to some percentage of resources in the maximum ramp allowed?
- The 30 minute limit for the BAAL is not short enough to address the short-duration frequency excursions; can that time limit be dependent upon the frequency?
- Imbalance between resources in the source and those in the sink are the problem.
- There are other issues in ERCOT (ramp window issues, market participants ramp generation off quickly at the end of one hour so there is no generation in next hour). Is this driven by business practices? Wind farm issues can also cause frequency excursions (price driven ramping of wind generation).

- There is a clear BAL requirement for Bias target. Bias established as 1 percent of projected peak load is the minimum. Frequency response is the natural response. Natural Frequency Response (EI) is typically 40 percent of the frequency Bias setting. The Bias should be near the natural frequency response but no less than the 1 percent projected peak load. Natural frequency response is a combination of governor response action, capacity limitations, dead-bands, and set-points.
- There are at least two different types of resources being utilized that contribute based upon their ramp capability. Pre-select mode is sometimes used to bypass governor action during ramp.
- Would this improve if there was a better response under frequency response standard?
- Coincidence of actions due to operation under an on/off peak criteria should be factored into consideration under this requirement, besides the interchange transaction implementation only, but the over all resource-load mismatch.

D. Support timely congestion relief by requiring the Balancing Authority to employ corrective load/generation management within a defined timeframe when participating in transmission loading relief procedures.

- In the issuance of the curtailments, a BA could be in an imbalance situation where no transmission relief is realized unless the BA takes action.
- Reserves covering interruptible energy imports have to be 1 for 1 by the receiving BA.
- Firm energy imports — responsibility of source system to make up resource.
- Unit contingent energy — treat as a unit inside the BA Area.
- Unscheduled flow mitigation plan (WECC) and TLR (EI) both require scheduled curtailments — entities have the option to load up other resources or replace lost resources with new imports.
- What would apply for very small curtailments?
- Upon implementation of a transmission loading relief procedure, what is the timeframe that a BA should be required to match load and generation within its Balancing Authority Area? Should the time dependent on the severity of the transmission loading relief procedure? Would something similar to DCS be appropriate to consider?
- There were 42 TLR3B of 1000 MW or more in 2007. The largest was 3966 MW.

3. Frequency Data Analysis

Mr. Potishnak updated the team on research that he has done concerning Pump Coincidence Studies and Frequency Dependency Modeling.

4. Review Presentation to WECC OC — June 25, 2008

Mr. Hils led a review of the presentation for the WECC. The group discussed topics for emphasis.

5. Joint Meeting with WECC OC — 1–2 p.m. June 26, 2008

Mr. Hils presented the work of the RBCSDT to the WECC OC. The group had several questions and plans to follow the work of the RBCSDT.

6. Project Schedule and Future Meetings

- a. Monday July 28th and Tuesday July 29th — 8 a.m.–5 p.m.; and meet with the RS on the morning of July 30th in Victoria, BC.
- b. September 30 — 11 a.m.–4 p.m. EDT, WebEx to prep for next meeting.
- c. September 16th — 1–5 p.m., September 17th — all day in Chicago — **Move this meeting to October 6 — noon–5 p.m. (CDT — lunch provided), October 7–8 — 8 a.m.–5 p.m. and October 9 — 8 a.m.–noon.**
- d. Monday, October 27th — noon–5p.m. (with lunch); Tuesday, October 28th 8 a.m.–5p.m. and meet with RS on the morning of October 29th in San Antonio.
- e. January 26–28, 2009 — 8 a.m.–5 p.m. PST in San Diego (adjacent to RS meeting).
- f. Field Trial Conference Calls
 - i. July 21 — 2 p.m. EDT
 - ii. August 25 — 2 p.m. EDT
 - iii. September 29 — 2 p.m. EDT
 - iv. October 20 — 2 p.m. EDT
 - v. November 17 — 2 p.m. EST
 - vi. December 15 — 2 p.m. EST

7. Action Items

- a. Mr. Hils and Mr. Herbsleb to develop option proposal for Purpose Statement B prior to July meeting.
- b. Mr. Potishnak to develop option proposal for Purpose Statement B prior to July meeting.
- c. Mr. Potishnak to develop option proposal for Purpose Statement C.

- d. Mr. Crutchfield to:
 - i. Determine whether or not the RBCSDT needs to respond to comments on a White Paper.
 - ii. Get data confidentiality agreements for the RBCSDT to discuss specific BA performance data at our July meeting (do we need this?)
 - iii. Check with Bob Cummings on Frequency model data for Mike Potishnak.

8. Adjourn

Links to Reference Documents:

- **RBC SAR**
ftp://www.nerc.com/pub/sys/all_updl/standards/sar/SAR_Reliability-based_Control_D3_Clean_08Nov07.pdf
- **The Approved Scope Document**
ftp://www.nerc.com/pub/sys/all_updl/standards/sc/SDT_Scope_SC_Approved_08Nov07.pdf
- **Reliability Functional Model**
ftp://www.nerc.com/pub/sys/all_updl/oc/fmrtg/Function_Model_Version3_Board_Approved_13Feb07.pdf
- **Reliability Standards development Procedure Manual**
ftp://ftp.nerc.com/pub/sys/all_updl/oc/stp/RSDP_V6_1_12Mar07.pdf
- **Issues to be considered by the drafting team**
ftp://www.nerc.com/pub/sys/all_updl/standards/sar/SAR_Reliability-based_Control_Issues_for_SDT_08Nov07.pdf
- **Drafting Team Guidelines**