

Meeting Notes

Reliability-based Control SDT — Project 2007-18

April 28, 2008 | noon–5 p.m.

April 29, 2008 | 8 a.m.–5 p.m.

April 30, 2008 | 8 a.m.–noon (joint meeting with RS)

Attendance

Team:

- Doug Hils, Chair
- Larry Akens
- Bill Herbsleb
- Howard Illian
- Clyde Loutan
- Steve Myers
- Sydney Niemeyer
- LeRoy Patterson
- Mike Potishnak
- Mark Prosperi-Porta
- Tom Siegrist
- Glenn Stephens
- Raymond Vice
- Terry Volkman
- Steve Crutchfield

Guests:

- Tom Vandervort
- Carlos Martinez
- Bob Snow
- Patrick Harwood
- Mahmood Mierheydar

1. Administrative

- a. Introductions of team members and review roster
The introductions were made.
- b. NERC Antitrust Compliance Guidelines
Mr. Vandervort covered the NERC Antitrust Compliance Guidelines.

2. Review Remaining Action Items from January Meeting

- a. Mr. Crutchfield to check with FRCC to get time on the FRCC OC agenda at the September 4, 2008 meeting (location to be determined).

The RBCSDT confirmed to send Doug and to go ahead with contacting FRCC to get on the September FRCC OC meeting agenda. Tentative presentation to the FRCC OC on September 4, 2008.

- b. Mr. Loutan and Mr. Illian to look at the data concerning 20 minute ramp in WECC and reporting back to the RBCSDT.

Mr. Loutan presented a PowerPoint presentation on the comparison of the field trials 16 BAs — CPS1 and CPS2 operating characteristics.

3. Review Action Items from March Meeting

- a. Mr. Hils to send latest Field Trial document to Mr. Crutchfield for posting — April 1, 2008 for EON.
- b. Mr. Crutchfield to modify the meeting request form for Spokane dates (see below). Mr. Patterson said that the Spokane meeting arrangements are being set-up by WECC.
- c. Mr. Crutchfield to obtain feedback from NERC regarding applicability of BAL-011 standard.

Doug H: NERC is in charge of developing BA E.

Mr. Snow: The ERO (NERC) would set the Epsilons. It seems strange that the one paragraph would become a stand alone standard to create a standard (to define and determine the Epsilons).

Review Order 693, Paragraph 321

Bill H: This is where we had problems with the Frequency Response SDT trying to determine who would define and establish the Bias components (who would be the custodian).

4. Draft Standard Development and Review

- a. Frequency Archiving

Interim Frequency Archiving — The Yugo User's Manual

NERC RS does not have the Frequency Archiving that it used to have with industry volunteers supplying frequency archiving. Anybody that has PI software can download Mike's NPCC data into the Yugo.

There are 3 Excel spreadsheets that comprise the Yugo.

1. Data Collection
2. One Day at a Time tabulation

3. Generic Spreadsheet for monthly tabulation

Mike went over the Yugo data that he recorded for the last couple of years. (I do not have Mike's Yugo presentation).

Doug: What are the needs of FRCC? Is the under frequency relay settings what is most critical to Florida or are there other more important criteria?

Raymond: The original intent of the SAR was to determine what risk level the interconnections were willing to take.

b. Coincidence of Eastern Interconnection Pump Load

Mr. Potishnak gave a short verbal update on where he is at with the Eastern Interconnection Pump Load and will request data from Messrs. Vice, Herbsleb and Niemeyer to help analyze the pump load characteristics in the Eastern Interconnection.

CPS2 vs. BAAL Presentation — Mr. Potishnak

Estimating the Impact of Dropping CPS2 Limits and replacing them with BAAL Limits on — Mike Potishnak

In NPCC, we have the central-east interface, that when we drag we place additional load on the interface. Sometimes it is not a problem, other times it is a major problem.

Mr. Potishnak made a presentation to the RBCSDT on the effectiveness of CPS2 vs. BAAL.

c. Discussion of SAR items b, c, and d (transmission related issues)

Project 2007-18 — Reliability Based Control

SAR — Purpose Statements, B, C, D

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.

Mr. Snow said that he is looking for support language and justification as to why the SDT supports the new standards requirements. Justifying the differences between the old standards (i.e. BAAL and CPS1 replacing CPS1 and CPS2). The justification should not be financial or business practice related but rather they should be reliability based.

Looking at Mr. Hil'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 do 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.

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 take certain action, should that amount be factored into the ACE so that it should be factored into the ACE?

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

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 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.

There is a clear BAL requirement for Bias target. Bias established as 1 percent of peak load is the base. Frequency response is the natural response.

Bias is 1 percent of peak load. Bias is typically 2.4 times less than the frequency response. This value goes into the Bias equation. The Bias should be near the natural frequency response but no less than the 1 percent Bias value.

Natural 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? Yes for a) and c).

Coincidence of actions due to operation under an on-peak or off-peak criteria should be factored into consideration under this requirement, besides the interchange transaction implementation only, but the overall resource-load mismatch.

D To 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 schedule curtailments — entities have the option to load up other resources or replace lost resources with new imports. What would apply for very small curtailments?

5. Field Trial

- a. Review new Field Trial participation — IESO started on March 1. EON-US (LGE) started on April 1
- b. Review Field Trial Document and Process for adding Field Trial participants
Mr. Hils may draft a letter to request additional BAs join the RBC Field Trials, first run it by the NERC Standards Group for review and authority to send out.
- c. Next Steps for WECC and HQ Field Trial Development
RBCSDT will meet with the WECC PCC/OC/MIC in June in Spokane, WA.

6. Project Schedule

- a. RCWG items for discussion at RCWG Meeting on May 6

Mr. Vice: The monthly RBCSDT field trial conference calls could be enhanced with additional RCs participating in the calls.

7. Review Dates and Times for Future Meetings

a. Monday, April 28th — noon to 5 p.m. (with lunch); all day on Tuesday, April 29th and meet with RS on the morning of Wednesday, April 30th in Washington, DC.

b. June 24–26 — 8 a.m. to 5 p.m. all three days, in Spokane, WA (Doubletree). Also plan to meet with WECC PCC/OC/MIC on the morning of June 26th.

Mr. Patterson contacted WECC regarding the June 24–26 meeting. WECC is awaiting a signed contract.

Mr. Crutchfield to confirm the meeting dates and arrangements, then communicate with the RBCSDT.

c. July 28–29 — 8 a.m. to 5 p.m.; and meet with RS on the morning of June 30th in Victoria, BC.

d. September 4, 2008, Presentation to FRCC OC, location to be determined. Potential RBCSDT meeting in Florida to coincide with presentation.

e. September 16th — 1 p.m. to 5 p.m., September 17th all day in downtown Chicago

f. October 27th — noon to 5 p.m. (with lunch); October 28th 8 a.m. to 5 p.m. and meet with the RS on the morning of October 29th in San Antonio.

g. Field Trial Conference Calls

- April 21 — 2 p.m. EDT
- May 19 — 2 p.m. EDT
- June 19 — 2 p.m. EDT
- July 21 — 2 p.m. EDT
- August 25 — 2 p.m. EDT
- September 22 — 2 p.m. EDT
- October 20 — 2 p.m. EDT
- November 17 — 2 p.m. EST
- December 15 — 2 p.m. EST

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**

[June 24–26, 2008 RBCSDT Meeting Agenda:](#)

- Draft, compile, and evaluate additional requirements that the RBCSDT wants to include in the standards.
- Determine the additional items, parameters, and requirements that the RBCSDT wants to include in the field trials based on the above.
- Evaluate SAR Requirements B, C, D, laundry list (that was compiled during this meeting).
- Begin to compile and prepare questions that the RBCSDT wants to ask the industry, approximately during the month of August.