



NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

Princeton Forrestal Village, 116-390 Village Boulevard, Princeton, New Jersey 08540-5731

December 17, 2004

TO: NERC ROSTER

Ladies and Gentlemen:

Request for Phase I Field Test Volunteers

The Balance Resources and Demand Standard Drafting Team (SDT) requests the Control Areas/Balance Authorities in your area to participate in the draft standard Phase I field tests. The field tests will be categorized according to the Control Area/Balance Authority bias:

- Small: minus 0.1 to minus 20.0 MW/0.1 Hz
- Medium: minus 20.1 to minus 100 MW/0.1 Hz
- Large: < minus 100 MW/0.1 Hz

The field test will validate the SDT's concepts and the standard metrics. The Phase I field tests will use one year of actual data from volunteer Control Areas/Balance Authorities, insert the data into the draft standard's metrics, and evaluate the results. Please refer to the attached documents for more details.

If you wish to volunteer for Phase I field testing, please send your Control Area/Balancing Authority detailed contact information to Tom Vandervort (tom.vandervort@nerc.net) by January 7, 2005.

Sincerely,

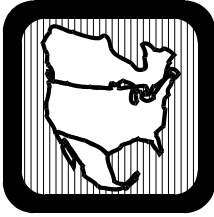
Raymond L. Vice
Chairman, Balance Resources and
Demand Standards Draft Team

RLV:naw
Enclosure

cc: Balance Resources and Demand Standard Drafting Team
Resources Subcommittee
Resources Subcommittee Regional Survey Contacts
Regional Managers
Operating Committee

A New Jersey Nonprofit Corporation

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Balance Resources and Demand Field Trials

Timeline:

December 17, 2004	Request for field trial participation to the Regions
January 7, 2005	Balancing Authority responses received
January 14, 2005	BALRESSDT provides participating BAs with Phase I details
February 1, 2005	Solicitation for Phase II
February 25, 2005	Receipt of Phase I Field Trial data from participating BAs
March 2005	Evaluation of Phase I Field Test data and Phase II FTL selection
Estimated April 1, 2005	Phase II Field Trial begins

Phase I Field Trial – Compliance Based Upon Historic Data

Balancing Authorities will be contacted and provided with a unique BA identifier for the field trial (BA-01, BA-02, etc). The Balancing Authorities will be requested to provide, at a minimum, their historic one-minute averages of data, including ACE and frequency error, over the period of January 1, 2004 – December 31, 2004. In addition, each Balancing Authority may choose to include its calculated performance to BAAL in the draft Standard with its one-minute averages. Using the clock-minute averages of data used for determining compliance to the CPS1, the BAAL limit can be calculated and compared against the ACE based upon a FTL_{Low} of 59.95 Hz (when frequency error is negative) or FTL_{High} of 60.05 Hz (when frequency error is positive).

Compliance will be based upon a recovery period of 30 minutes. The first minute of BAAL being exceeded will serve as the beginning of the recovery period to be measured; in other words, the test recovery period of 30 minutes will start at that time. More information regarding the data submittal format is provided in Attachment A.

Phase I Review – BALRESSDT Selection of Phase II Criteria

From the data submitted by the Balancing Authorities for Phase I, the BALRESSDT will calculate and evaluate the performance of each Balancing Authority by correlating BAAL failures against the concurrent CPS and DCS compliance over the same time period, as well as the interconnection frequency performance. Based upon its evaluation, the BALRESSDT will select the applicable FTL to trigger a compliance event for each Interconnection for which compliance will be measured under the Phase II Field Trial.

To move forward with the Phase II Field Trial, the BALRESSDT will set the start date for implementation and gain the necessary approval from NERC to waive compliance to the CPS2 for the volunteer Balancing Authorities.

Phase II Field Trial – Actual Operation to the Draft Standard

Upon approval to move forward with the Phase II Field Trial, the BALRESSDT will contact the Balancing Authorities to coordinate the start of actual operation to the draft Standard on the date

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determined above. For the duration of the Phase II Field Trial, the volunteer Balancing Authorities will be required to continue reporting Control Performance Standard data, however they will be fully responsible for operating and reporting compliance to the draft Balancing Resources and Demand Standard (report format to be developed).

If a Reliability Coordinator experiences a problem on its system attributed to the real-time ACE of a Balancing Authority under the Phase II Field Trial, it may direct the Balancing Authority to restore its ACE within CPS compliance limits within 30 minutes until the system problem is addressed. The Reliability Coordinator will notify the Balancing Authority when it can restore operations again to the Phase II Field Trial. Such requests for the BA to cease operating under the Phase II Field Trial will be documented by the Balancing Authority including the duration of the Reliability Coordinator request, and provided to the Balancing Resources and Demand Standard Drafting Team within 24 hours of such event.

As the Operate Within Limits Standard will not be in place during Phase II Field Trial, the BAs will continue to be responsible for compliance to the Disturbance Control Standard in order to limit the duration of unscheduled flows on adjacent systems due to the loss of generation.

For each month of the Phase II Field Trial, each Balancing Authority will provide its one-minute data for the prior month's operations in the CSV format provided in Attachment A by the 10th working day of following month.

Data Confidentiality

The BALRESSDT will assign a unique identifier to each Balancing Authority participating in the Field Trials. All one-minute data submitted under the Field Trials will reflect the identifier and not the acronym of the Balancing Authority. Compliance to the draft Standard under the Phase II Field Trial will be reported to each Balancing Authority's Region with the Balancing Authority identified. Compliance reports to the draft Standard will be posted on the NERC Resource Subcommittee web site along with the compliance reports for the Control Performance and Disturbance Control Standards.

ATTACHMENT A — Phase I Field Trial Data Submittal Format

One-minute data will be provided in monthly files under the following CSV format:

BA, Date, Time, TimeZone, ACE, FreqError, FreqBias, ActFreq, SchedFreq, AQC, FQC, BAAL_Low, MinCtLow, BAAL_High, MinCtHigh <EOL>

<u>Field Name</u>	<u>Description/Type</u>
BA	5-character BA Identifier provided by BALRESSDT,
Date	Date format (MM/DD/YYYY),
Time	24-hour time format (hh:mm),
TimeZone	3-character time-zone abbreviation,
ACE	Area Control Error (MW) - REAL
FreqError	Frequency Error (Hz) - REAL
FreqBias	Frequency Bias (MW/0.1 Hz) - REAL
ActFreq	Actual Frequency (Hz) - REAL
SchedFreq	Scheduled Frequency (Hz) - REAL
AQC	ACE Quality Code (0=valid data, 1=bad data) - INT
FQC	Frequency Quality Code (0=valid, 1=bad data) - INT
BAAL_Low	BAAL _{Low} (MW) - REAL
MinCtLow	MinuteCount _{Low} - Count of consecutive minutes of negative ACE < BAAL _{Low} when Frequency Error is negative - INT
BAAL_High	BAAL _{High} (MW) - REAL
MinCtHigh	MinuteCount _{High} - Count of consecutive minutes of positive ACE > BAAL _{High} when Frequency Error is positive - INT

BAAL is calculated as follows:

If FreqError<=0, then $BAAL_{Low} = (-10 * \text{Frequency Bias} * (\text{FTL}_{Low} - \text{Scheduled Frequency})^2) / (\text{Frequency Error} + 0.00000001)$, else $BAAL_{Low} = 0.0$

If FreqError>0, then $BAAL_{High} = (-10 * \text{Frequency Bias} * (\text{FTL}_{High} - \text{Scheduled Frequency})^2) / (\text{Frequency Error} + 0.00000001)$, else $BAAL_{High} = 0.0$

Example CSV records:

```
BA-01,11/21/2004,10:00,EST,-10.2,-0.008,-90.0,59.992,60.00,0,0,-236.8,0,0.0,0
BA-01,11/21/2004,10:01,EST,-2.5,-0.010,-85.0,59.990,60.00,0,0,-234.5,0,0.0,0
BA-01,11/21/2004,10:02,EST,1.6,-0.007,-80.0,59.993,60.00,0,0,-239.7,0,0.0,0
BA-01,11/21/2004,10:03,EST,-309.0,-0.037,-80.0,59.963,60.00,0,0,-239.7,1,0.0,0
BA-01,11/21/2004,10:04,EST,-310.4,-0.042,-80.0,59.958,60.00,0,0,-279.2,2,0.0,0
BA-01,11/21/2004,10:05,EST,-312.5,-0.054,-80.0,59.946,60.00,0,0,-252.1,3,0.0,0
```

Monthly File Naming Convention

YYYYMM_BA-**NN**.CSV (for example 200408_BA-06.CSV for BA-06's August 2004 file)