



NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

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

Resources Subcommittee Meeting

January 26–28, 2005
Gulfport, Mississippi

Minutes

A regular meeting of the North American Electric Reliability Council Resources Subcommittee (RS) was held on January 26–28, 2005 in Gulfport, Mississippi. The meeting announcement, agenda, and attendance list are attached as **Exhibits A, B, and C**, respectively. Individual statements and minority opinions are affixed as **Exhibits D and E** (there were none).

Resources Subcommittee Chairman Carl Monroe presided. The secretary announced that a quorum was present.

Minutes of the Previous Meeting

The subcommittee approved the October 27–29, 2004 Resources Subcommittee meeting minutes.

Elmer Bourque Recognized

Chairman Monroe recognized the work that Elmer Bourque, from New Brunswick Power, has performed for the Resources Subcommittee. The RS presented Mr. Bourque with a plaque commemorating his long-term contribution of supplying Eastern Interconnection frequency data and frequency analysis. On behalf of the subcommittee, Mr. Monroe thanked Mr. Bourque for his continuous support through the years and expressed best wishes on his future retirement.

Resources Subcommittee Scope and Membership

The Resources Subcommittee revised its scope to comply with the Operating Committee's November 21, 2004 charge to establish a consistent set of analytical methodologies that each Interconnection would use to determine its frequency profile.

The Scope was completely evaluated and revised. The OC Subcommittee Organization and Procedures document, approved by the OC on July 12, 2001, was used as a guide in the revision process. The RS was careful not to duplicate the requirements or guides already stated in the procedures document.

Mr. Badley proposed the Resources Subcommittee membership be comprised of an equal number of interconnection representatives rather than on a regional basis. However, the consensus of the subcommittee favored membership based on regional representation (one member from each region) with the remaining members drawn from regions based on regional energy demand (load) proportionate to the entire North America energy demand (load). Thus each region would have representation and regions with large loads would have additional representation on the subcommittee.

Mr. Vice made a motion to recommend to the OC that the Resources Subcommittee consist of 18 members that will be represented equally among the regions based on their energy demand (load) to the

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North American energy demand (load) with a minimum of one member from each region. The motion was approved.

Mr. Vice then made a motion that the Resources Subcommittee recommend that the Operating Committee approve the revisions to the RS scope. The motion was approved.

Tom Vandervort will ask Don Benjamin to include the revised RS scope on the March OC meeting agenda. The revised scope affixed as **Exhibit F**.

Resources Subcommittee Action Item List

The subcommittee reviewed and updated the action item list, which is affixed as **Exhibit G**.

Task Force Reports

Operating Reserves Task Force – Chairman Mike Potishnak

Metrics for Operating Reserves Standards

In 2004, the Compliance Template Task Force recommended that standards and measures be developed to address operating reserves. While the current performance standards appear adequate to measure the application of reserves, there is a need to identify and measure how reserves are planned and carried to meet daily requirements. The Compliance Template Task Force recommended this task be assigned to the NERC Operating Committee.

The Operating Reserves Task Force Chairman Mike Potishnak drafted a preliminary proposal for the subcommittee to review. The RS agreed that the proposal was a good start, had a lot of merit, but was too prescriptive in its language and proposed methodology.

Mr. Potishnak and the task force will consider the comments for the next draft of the proposal. During the discussion, the RS requested the task force to review its respective Reliability standards Standards, using Word search and review of “reserve” language and terminology within the Reliability standards standards. The task force will develop an Operating Reserves SAR.

NERC Reliability Standards, Reference Documents and Training Documents

The Reliability standards Standards, BAL-001-0 through BAL-006-0 (current Policy 1) were reviewed and remanded to the five subcommittee task forces. The task forces will also review the reference documents and training documents.

The task forces’ assignments include:

- Use the standard process to draft appropriate SARs.
- Review reliability standards to ensure they are “safe and effective.”
- Ensure reliability standards are in synch with the Functional Model.
- Review reference documents for applicability, accuracy, and relevance.
- Review training documents for applicability, accuracy, and relevance.
- Identify those reliability standards that should become part of Reference Document(s).
- Recommend moving reference and training document(s) requirements to reliability standards.
- Evaluate and recommend revisions or improvements to the reliability standards.
- Recommend deletions of reliability standards sections.
- Recommend reliability standards with NAESB on those Standards that might be considered business practices.

Reliability standards, reference documents, and training documents to be reviewed:

- a. Standard BAL-001-0, Real Power Balancing Control Performance, reliability standards Control Criteria Task Force (CCTF includes the entire RS)

- b. Standard BAL-002-0, Disturbance Control Performance, Reliability standards
Operating Reserves Task Force – Pay close attention to Operating Reserves
- c. Standard BAL-003-0, Frequency Response and Bias, Reliability standards
Frequency Task Force – Pay close attention to the variable bias calculation
- d. Standard BAL-004-0, Time Error Correction, Reliability standards
Frequency Task Force
- e. Standard BAL-005-0, Automatic Generation Control, Reliability standards
Automatic Generation Control Task Force
- f. Standard BAL-006-0, Inadvertent Interchange, Reliability standards
Inadvertent Interchange Task Force
- g. Reference Document – Performance Standards Reference Document
Control Criteria Task Force
- h. Training Document – Area Interchange Error Survey Training Document
Inadvertent Interchange Task Force
- i. Training Document – Frequency Response Characteristic Survey
Frequency Task Force
- j. Training Document – Inadvertent Interchange Accounting Training Document
Inadvertent Interchange Task Force

The task forces will finalize their recommendations and draft appropriate SARs, then bring their recommendations to the April 2005 RS meeting.

Balance Resources and Demand Standard

The Balance Resources and Demand Standard Drafting Team (BRD SDT) Chairman Raymond Vice reviewed the development of the standard, the target research, and the proposed field tests. The target research was designed to verify the assumptions and calculations included in the standard and supporting documents. The two-phase proof of concept field tests will validate the concepts and compare the new BRD metrics against the current CPS2 and DCS performance. The Phase I field test will collect one year of historical data from small, medium, and large control areas and calculate performance for these control areas. The Phase II field tests will measure actual control area operation using the BRD standard metrics and will require that CPS2 performance compliance requirements be suspended. However, during Phase II field tests DCS requirements will be enforced and reliability coordinators will have the authority to suspend the field test if reliability is threatened. It is necessary and critical for small control areas (less than 25 MW bias) to participate in the Phase II field tests because the SDT's preliminary evaluation has shown that the small control areas Balancing Authority ACE Limits (BAALs) will be the most impacted by the new BAAL criteria.

Mike Potishnak generated comments on the Balance Resources and Demand draft standard. Refer to **Exhibit D** for Mr. Potishnak's individual statements.

Frequency Response Standard SAR

The Frequency Response Standard, associated technical paper, and comment form are posted for industry comment from January 17, 2005 through February 17, 2005. The link to review the posted documents is: http://www.nerc.com/~filez/standards/Frequency_Response.html

After the posting, a drafting team will be formed to develop the standard. It is important for the Resources Subcommittee members to self-nominate themselves to participate on the standard drafting team.

Compliance Report

Reliability Standards Review and Implementation

Joe Willson recommended the Resources Subcommittee be diligent in monitoring and commenting on standards and SARs as they are posted. Mr. Willson emphasized the need for the certification standards to line up with the Functional Model. The Balancing Authority Certification Standard does line up with the Functional Model. The Reliability Authority Certification Standard lines up with the Functional Model but does not line up with the reliability standards. The Transmission Operator Certification Standard is currently posted for comment. Mr. Willson recommends that the subcommittee review all of their respective reliability standards carefully to ensure that the requirements are thorough, the measures are appropriate, and the standards line up with the Functional Model.

The NERC Board of Trustees will vote to approve the reliability standards on February 8, 2005, with the implementation date for the standards to be April 1, 2005.

ERCOT DCS Event

ERCOT requested an exemption from implementing the contingency reserve adjustment factor for the DCS violation that occurred on August 18, 2004. The NERC compliance group requested that the Resources Subcommittee review the event and associated circumstances, and then go to the Operating Committee and NERC compliance group with a recommendation regarding the ERCOT request for exemption.

Kent Saathoff, ERCOT director of system operations, described the event, answered questions and explained ERCOT's reason for requesting for an exemption from the contingency reserve adjustment. The RS discussed the merits of the request. A summary of the discussion follows:

- ERCOT may be assessing the operating reserves penalty in the wrong place. There may be a misunderstanding of what reserves should be carried.
- The RS has granted rare exemptions from contingency adjustments in the past but only when the DCS event did not affect the reliability of the grid.
- ERCOT as an Interconnection can change the DCS recovery time and should have evaluated and considered doing so prior to the event.
- The RS cannot overlook the "reliability" aspect of the DCS event. Either the DCS event violated the requirement and the penalty must be enforced; or the DCS event was not violated and there is no penalty.
- The RS believes that ERCOT already carries excess capacity that can be considered as the contingency reserve adjustment without adding reserves to meet the penalty requirements.
- Those control areas or reserve sharing groups that are carrying excess reserves continuously are also carrying the excess expenses on a continuous basis.

Terry Bilke made the following motion: The Resources Subcommittee will recommend to the NERC Compliance Program that a contingency reserve adjustment apply to ERCOT for the August 18, 2004, DCS event in accordance with Policy 1 requirements. The motion was approved.

After the motion was approved, the subcommittee continued its discussion with Mr. Saathoff on the motion and its ramifications. Individual statements by Terry Bilke and Don Badley are included in **Exhibit D**.

Projects

ACE Project 2000-03

Carlos Martinez, Consortium for Electricity Reliability Technology Solutions (CERTS) project manager, reported that version 2.1 was sent to Reliability Coordinators in November 2004. The 2.1 release

contained geographical jurisdiction adjustments, the incorporation of a new database in the NERC hardware, and correction of numerous software errors. Version 3 is projected to be released in April 2005, and will revise 2005 performance data and incorporate additional geographical jurisdiction adjustments.

AIE Project 2000-04

CERTS successfully completed factory tests in December 2004. The next step is for the NERC RS Frequency Task Force to evaluate the software utilizing actual WECC data. The confidentiality agreements are in legal review, and it is anticipated the agreements will be signed and the evaluation will begin in the near future. CERTS is looking forward to receiving the FTF review and recommendations.

Inadvertent Checkout Website (SPP Inadvertent Tool Migration) Project 2001-37

CERTS is currently in the process of migrating the SPP database to NERC and duplicating the user interface. CERTS estimates the completion of the SPP Inadvertent Tool migration to be at the end of the second quarter of 2005.

Frequency Data Collection and Analysis System Project 2003-11 and the Eastern Interconnection Phasor Project

The RS reviewed the November 21, 2004 OC meeting minutes, Frequency Data Collection and Analysis System Discussion:

“The Operating Committee discussed various options for collecting frequency information. WECC already collects and analyzes frequency data for the Western Interconnection, and the Eastern Interconnection Phasor Project may be able to provide frequency measurements and data collection for the Eastern Interconnection.

“Sam Jones then moved the following resolutions:

1. The OC expects the Interconnections (Eastern, Western, ERCOT, and Hydro-Québec) to analyze their frequency to determine if NERC’s balancing standards are “safe and reliable.”
2. The OC understands that the Interconnections’ frequency profiles may be different.
3. The OC expects that these analyses be conducted according to a consistent set of analytical methodologies that the Resources Subcommittee establishes.
4. The OC expects the Interconnections to maintain this data and cooperate with the Resources Subcommittee’s needs to perform its analyses. The RS members will agree upon a data retention requirement.

“After further discussion, the Operating Committee approved Mr. Jones’s motion.

“Sam Holeman then moved to direct the Operating Committee’s regional representatives, regional managers, and the Resources Subcommittee to ensure that this resolution is implemented with consideration given to other wide-area data collection initiatives already underway. After further discussion, the Operating Committee approved Mr. Holeman’s motion.”

To address the Operating Committee’s charge, the subcommittee revised and incorporated language into its scope to establish a consistent set of analytical methodologies that will allow the Interconnections to collect frequency data and evaluate frequency profiles. With the frequency analytical methodologies established, the next step will be to assess how the interconnection will collect, evaluate, and process the frequency data. The Western Interconnection has started a frequency retention project and the

subcommittee assumes this project will satisfy the requirements set forth by the RS. Hydro Quebec interconnection has stated that they collect and store frequency data and will be able to satisfy the requirements set forth by the RS. ERCOT interconnection also collects frequency data and will be able to satisfy the requirements set forth by the RS. When the frequency methodologies are determined and established, the subcommittee will survey the Operating Committee's Eastern Interconnection regional representatives and regional managers to assess how the Eastern Interconnection will collect, evaluate, and process the frequency data."

In December 2004, NERC, CERTS, and Eastern Interconnection Phasor Project representatives held a conference call to determine how to satisfy the frequency requirements of the Eastern Interconnection. An option that the three groups discussed is to design the phasor project architecture to capture the frequency using the specifications from the Resources Subcommittee's Frequency Data Collection and Analysis System (FDCAS) Project. The consensus of the three groups is that the FDCAS has comprehensive specifications that if rolled into the EIPP would satisfy the subcommittee's needs and requirements without extensive revamping of the EIPP. However, the RS has reservations about the EIPP because it will not report to NERC or to the OC and it is not clear how the RS will interface with the project. The subcommittee is interested in developing a relationship with EIPP to address these issues and concerns.

Raymond Vice and Terry Bilke will extract the FDCAS frequency data retention specifications and the FDCAS frequency analysis specifications and then format these specifications into the RS analytical methodologies to satisfy the OC charge.

Frequency Performance

The RS monitors the Interconnection frequency and average frequency error trend on an ongoing basis.

Eastern Interconnection Frequency Performance

Terry Bilke reviewed the Eastern Interconnection frequency performance. There were no significant events during the recent quarter.

ERCOT Interconnection Frequency Performance

Sydney Niemeyer reviewed ERCOT frequency performance. There were no significant events during the recent quarter

Western Interconnection Frequency Performance

Yuri Makarov reviewed the Western Interconnection frequency performance. There were no significant events during the recent quarter.

Control Performance Standard

The subcommittee reviewed the monthly CPS1 and CPS2 data for trends and violations.

Epsilon 10 Calculation

The Resources Subcommittee determined that clarification on the calculation of Epsilon 10 was needed for future calculations of L_{10} . The issue was whether the Epsilon 10 value should be a fixed value of 5.7 or if it should be calculated using Epsilon 1 square ratios. After discussion, the subcommittee's unanimous consensus was to interpret the Epsilon 10 calculation to float with the Epsilon 1 value. In other words, the calculation will not be a fixed at 5.7 value but will float with the Epsilon 1 value (currently 18 mHz). Tom Vandervort will convey this information to Joe Emde for future L_{10} calculations.

Disturbance Control Standard

The subcommittee reviewed the 2004 4th-quarter DCS data. There were no events during the quarter.

Time Error

Eastern Interconnection

The Eastern Interconnection called 230 time error corrections during 2004: 0 Slow TECs; 230 Fast TECs.

ERCOT Interconnection

ERCOT Interconnection called 62 time error corrections during 2004; 21 Slow TECs; 41 Fast TECs.

WECC Interconnection

WECC Interconnection called 79 time error corrections during 2004; 43 Slow TECs; 36 Fast TECs.

Energy Day Discussion

NAESB Business Practice Request No. R04016

Request No. R04016 seeks the ***development of a standard energy day*** that would apply to both the natural gas and the electric industries. The chief benefit of a standard energy day would be to foster the coordination of scheduling between electric and natural gas and allow both industries to more closely match fuel deliveries to generation requirements. Additionally, the reason to establish a standard energy day is a result of NAESB Gas/Electric Coordination Task Force's work. Request No. R04016 has been deferred by NAESB until a later time.

NAESB Business Practice Request R04020

Request R04020 will ***establish business standards relating to electric transaction scheduling and timelines***. The Interchange Subcommittee or Resources Subcommittee could provide comments on this issue.

The proposal addresses the following:

- Interchange schedule coordination including ramp times (Seams issue #41 & GECTF Discussion Point List item D.)
- Standardize Interchange Scheduling components of Day Ahead Market Design. Identify possible tools that can accommodate different interchange requirement rules. Include other scheduling components of Day Ahead Market Design to accommodate inter-RTO transactions. (Seams issue #78, 79, 106 & GECTF Discussion Point List item D.)

NAESB Business Practice Request R04021

Request R04021 will ***develop standards for the daily operational communications between pipelines and power plants***. These communications standards would include anticipated power generation fuel requirements for the upcoming day as well as notification anytime plans change. Likewise standards for pipeline communications for any operating problems that might hinder power plants from receiving required contractual quantities when needed would be developed.

Tom Vandervort presented the three NAESB requests to the subcommittee, which are referred to under an umbrella description as “energy day” proposals. Noting that Request R04016 has been deferred indefinitely, Mr. Vandervort inquired if anyone on the subcommittee is currently participating in the “energy day” discussions or would like to represent the RS in future discussions. There are no subcommittee members that currently participate in the “energy day” meetings or discussions. Chairman Monroe asked Tom Vandervort to request NERC office or from OC Chairman Fidrych to clarify the level of participation and state what is expected from the subcommittee regarding the NAESB “energy day” discussions.

SPP Control Area Consolidation Feasibility Study

Robert Rhodes gave a presentation on the SPP Operational Control Task Force's preparation of a Control Area Consolidation Feasibility study. (**Presentation 1**)

Flywheel Regulation and Frequency Control

Yuri Makarov gave a presentation on the Utilization of Flywheels for Regulation and Frequency Control. WECC is experimenting with flywheel technology and potential uses. (**Presentation 2**)

Governing and Natural Frequency Response

Elmer Bourque gave a presentation on Governor Control and Natural Frequency Response. (**Presentation 3**)

Historical Frequency Data

Elmer Bourque shared his thoughts on his many years of observing frequency characteristics and trends in the Eastern Interconnection. (**Presentation 4**)

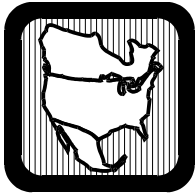
Dates and Locations of Future Meetings

- | | |
|------------------------|---------------------------|
| 1. April 27–29, 2005 | Portland, Oregon |
| 2. July 27–29, 2005 | Salt Lake City, Utah |
| 3. October 26–28, 2005 | Asheville, North Carolina |

Respectfully submitted,

Tom Vandervort

Thomas J. Vandervort
Resources Subcommittee Secretary



Please complete and return
this form whether or not you
plan to attend this meeting
to: Barbara Bogenrief
(barbara.bogenrief@nerc.net)

Exhibit A

NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

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

Resources Subcommittee

Wednesday, January 26, 2005 — 8 a.m.–5 p.m.

Thursday, January 27, 2005 — 8 a.m.–5 p.m.

Friday, January 28, 2005 — 8 a.m.–noon

Meeting Logistics and Registration Form

Hotel	Grand Casino Gulfport OASIS Hotel 3215 W. Beach Boulevard Gulfport, MS 39501
Phone and fax	Ph: 228-870-7777 ■ Fx: 228-867-5501
Room rate	\$59 single/double occupancy
Room block	Nights of January 25–27, 2005
Reservation cut-off date	December 26, 2004 (NOTE: After this date, the hotel will release this block of rooms and only accept reservations on a space-available basis.)
Check-in and check-out times	Check-in: 3 p.m. Check-out: noon
Transportation	The hotel is located about 15 minutes from the Gulfport-Biloxi International Regional Airport. <ul style="list-style-type: none">• Complimentary shuttle service is available at baggage claim.• Taxi: Approximately \$25
Hotel reservation instructions	When making your hotel reservation, please be sure to mention the “NERC/North American Electric Reliability Council” meeting to get the preferred rate and to ensure your reservation is credited to the NERC room block. NERC may be charged a penalty if the total rooms blocked for this event are not picked up. Also, if you use a travel agency for your travel plans, please make sure the agency mentions NERC.
Attire	Business casual.

Please type or print.

Name:	
Title:	
Company:	
Telephone:	
Email:	
Attending: <input type="checkbox"/>	Not Attending: <input type="checkbox"/>

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Exhibit B

NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

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

Resources Subcommittee Meeting

Wednesday, January 26, 2005 — 8 a.m.–5 p.m.

Thursday, January 27, 2005 — 8 a.m.–5 p.m.

Friday, January 28, 2005 — 8 a.m.–noon

Grand Casino Gulfport Oasis Hotel
3215 W. Beach Boulevard
Gulfport, MS 39501
Phone: 228-870-7777

Participation Via Phone

Phone: (732) 694-2061

Access Code: 1108012605#

Follow Instructions

Agenda

1. Administrative

- a. Membership and Guests – Chair
- b. Introductions – Chair
- c. Organization, Roster, and Survey Contacts List – Secretary
- d. Arrangements – Secretary
- e. Approval of October 27–29, 2004, Meeting Minutes – Chair
- f. Approval of Agenda – Chair
- g. Procedures
 - i) Parliamentary Procedures – Chair
 - ii) Antitrust Compliance Guidelines – Chair
- h. Resources Subcommittee Scope – Chair
- i. Resources Subcommittee Action Items List – Chair

2. Task Force Reports

- a. Automatic Generation Control Task Force – Raymond Vice
- b. Frequency Task Force – Don McInnis
- c. Inadvertent Task Force – Don Badley
- d. Reserves Task Force – Mike Potishnak

3. Compliance

- a. Compliance and Certification Managers Committee Liaisons – Joe Willson, Raymond Vice
- b. ERCOT DCS Event – Sydney Niemeyer, Kent Saathoff
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4. NERC Reliability Standards

- a. Standard BAL-001-0, Real Power Balancing Control Performance, Version 0 – Carl Monroe
- b. Standard BAL-002-0, Disturbance Control Performance, Version 0 – Carl Monroe
- c. Standard BAL-003-0, Frequency Response and Bias, Version 0 – Carl Monroe
- d. Standard BAL-004-0, Time Error Correction, Version 0 – Carl Monroe
- e. Standard BAL-005-0, Automatic Generation Control, Version 0 – Carl Monroe
- f. Standard BAL-006-0, Inadvertent Interchange, Version 0 – Carl Monroe
- g. Reference Document – Performance Standards Reference Document – Carl Monroe
- h. Training Document – Area Interchange Error Survey Training Document – Carl Monroe
- i. Training Document – Frequency Response Characteristic Survey – Carl Monroe
- j. Training Document – Inadvertent Interchange Accounting Training Document – Carl Monroe
- k. Balance Resources and Demand Draft Standard Update – Raymond Vice
- l. Frequency Response Standard SAR – Tom Vandervort
- m. Proposal for Operating Reserve Standard – Mike Potishnak
- n. Proposal for Time Stamp Synchronization – Carl Monroe
- o. NAESB Business Practices Standards, Version 0 – Carl Monroe
- p. NAESB Inadvertent Interchange Payback Business Practice Standard – Tom Vandervort

5. NERC Active Resources Subcommittee Projects – Status

- a. Area Control Error (ACE) Project (Project 2000-03) – Carlos Martinez
- b. Area Interchange Error (AIE) Project (Project 2000-4) – Carlos Martinez
- c. CPS1 & CPS2 Displays (Project 2001-38) – Carlos Martinez
- d. Frequency Data Collection and Analysis (Project 2003-11) – Terry Bilke, Carl Monroe
- e. DOE Eastern Interconnection Phasor Project (EIPP) – Terry Bilke, Carlos Martinez
- f. Inadvertent Project – Carlos Martinez
- g. Data Quality – Carlos Martinez

6. Frequency Performance

- a. Western Interconnection Frequency Trends
- b. Eastern Interconnection Frequency Trends
- c. ERCOT Frequency Trends
- d. CPS1 and CPS2 Data Trends
- e. DCS Data Trends
- f. Inadvertent Interchange Balances – Joe Emde, Carl Monroe
- g. High Frequency Issue – Terry Bilke, Carl Monroe

7. Time Error

- a. Eastern Interconnection – Joe Willson
- b. Western Interconnection – Don Badley
- c. ERCOT Interconnection – Sydney Niemeyer

8. Issues Requiring Resources Subcommittee Consideration

- a. Dynamic Transfer Catalogue – Carl Monroe
- b. Unit Contingent Transactions and DCS – Don Badley
- c. Energy Day – Tom Vandervort
- d. SPP Control Area Consolidation Feasibility Study – Robert Rhodes

9. Future Meetings

- a. April 27–29, 2005 – Salt Lake City, UT
- b. July 27–29, 2005 – Asheville, NC
- c. October 26–28, 2005 – Location to be Determined

Exhibit C

Resources Subcommittee Meeting January 26–28, 2005 Gulfport, Mississippi

RS Meeting Attendance Sheet	
Resources Subcommittee Member/Guest	Organization
Carl Monroe, Chairman	SPP
Randy Jones, Vice Chairman	Calpine
Larry Akens	TVA/SERC
Don Badley	NWPP
Gerry Beckerle	Ameren
Terry Bilke	MISO
Yuri Makarov	CAISO
Sydney Niemeyer	Texas Genco, LP
Alan Oneal	MidAmerican
Mike Potishnak	ISO-NE
John Swez	Cinergy
Raymond Vice	Southern Co.
Joe Willson	PJM
Tom Vandervort	NERC
Carlos Martinez	CERTS/EPG
Robert Rhodes	SPP
Elmer Bourque	NB Power
Kent Saathoff	ERCOT

Exhibit D

Individual Statements Resources Subcommittee Meeting January 26–28, 2005

Balance Resources and Demand Standard

Mike Potishnak — ISO New England

To reflect the direction of the BRD standard, Mike Potishnak requested that the RS include the following comments in the meeting minutes:

1. Once in ten years is the wrong design criterion for Interconnection-wide major frequency excursions, and if the ten-year limit is used as an intermediary calibration parameter, then the ultimate estimate once-in-X years for a major frequency excursion that results from using the ten year intermediate number should be publicized and scrutinized for being the right design criterion. The once-in-ten years criterion has a heritage of capping expenditures on building transmission infrastructure, generation facilities, etc. When the once in ten year limit phenomenon occurs for its historical application, the consequences are usually rather local and not Interconnection-wide. A major frequency excursion would cause load shedding throughout the Interconnection, which is a very different result. Reaction to the August 14, 2003 blackout demonstrates the obvious unacceptability to a once-in-ten years criterion for a major frequency event. Also, the prime economic benefits related to wider frequency control seems to be a lesser expenditure for regulation;
2. Mr. Potishnak recommends that a good faith attempt be made to include plausible worst-case dependency scenarios (e.g., how much generation could be lost in a major hurricane, tornado, act of sabotage, etc.). The resulting BAAL limits may be very sensitive to dependency. The standard drafting team should explore other statistical methods that go beyond the potentially serious limitations and possible consequences of relying on an assumption of statistical independence. Mr. Potishnak also recommends using professional statisticians that are subject matter experts in analyzing dependent phenomena in the standard development process; and
3. Mr. Potishnak recommends that the active portion of the field-testing be delayed until the flaws noted in Nasser Jaleeli's work are resolved.

ERCOT DCS Event

Don Badley — Northwest Power Pool ***Terry Bilke — Midwest ISO, Inc.***

Don Badley – The DCS adjustments are deficient in their applications and discriminatory against those control areas that do not carry excess reserves.

Terry Bilke explained that, based on Policy 1, the ERCOT contingency reserve adjustment will be based on their 1,250 MW contingency reserve requirement. As long as their contingency

reserve minimum is larger than 1,250 MW plus the adjustment, ERCOT satisfies Policy 1 DCS adjustment requirements.

**Minority Opinions
Resources Subcommittee Meeting
January 26–28, 2005**

Exhibit E

There were none.

Exhibit F

Scope Document Resources Subcommittee

Areas for Standards Technical Responsibility

- Standard BAL-001, Real Power Balancing Control Performance
- Standard BAL-002, Disturbance Control Performance
- Standard BAL-003, Frequency Response and Bias
- Standard BAL-004, Time Error Correction
- Standard BAL-005, Automatic Generation Control
- Standard BAL-006, Inadvertent Interchange
- Standard INT-001, Interchange Transaction Tagging (BA Tech Sections)
- Standard INT-003, Interchange Transaction Implementation (BA Tech Sections)
- Standard TOP-001, Reliability Responsibilities and Authorities (BA and GOP Tech Sections)
- Standard TOP-005, Operational Reliability Information (BA Tech Sections)
- Standard TOP-006, Monitoring System Conditions (BA Tech Sections)
- Standard EOP-001, Load Shedding Plans (BA Tech Sections)
- Standard EOP-002, Capacity and Energy Emergencies (BA Tech Sections)
- Standard EOP-008, Plans for Loss of Control Center Functionality (BA Tech Sections)
- Standard COM-001, Telecommunications (BA Tech Sections)
- Standard PER-001, Operating Personnel Responsibility and Authority (BA Tech Sections)
- Standard IRO-005, Reliability Coordination – Current Day Operations (BA Tech Sections)
- Reference Document – Performance Standards Reference Document
- Training Document – Area Interchange Error Survey Training Document
- Training Document – Frequency Response Characteristic Survey
- Training Document – Inadvertent Interchange Accounting Training Document

Purpose

Provide technical support to NERC and industry to:

- Evaluate proposed and existing reliability standards and any consequences independently for frequency or load-generation balance control performance.
- Evaluate proposed and existing NAESB business practices independently for impacts on frequency or load-generation balance control performance.
- Propose new reliability standards or NAESB business practices or revisions as needed.
- Investigate incidents on the interconnections as requested by the Operating Committee.
- Investigate compliance issues as requested by NERC.

To achieve the Purpose the RS may:

- Evaluate frequency performance and characteristics independently across and within, in conjunction with, the interconnections of NERC.
- Evaluate balancing area control performance and characteristics independently across and within, in conjunction with, the interconnections of NERC.
- Define analytical methodologies and data retention to be used by the Interconnections for data analyses provided to the RS.

This may include investigations into the following areas:

- Load-generation balancing
- Interchange deployment
- Inadvertent Interchange accounting and payback
- Control performance
- Automatic Generation Control
- Time Error Correction
- Operating Reserve
- Frequency Response

Under the new Reliability Model the following functions will be investigated:

- Balancing Authority
- Generator Operator
- Load-Serving Entity
- Purchasing Selling Entity
- Reliability Coordinator
- Reliability Authority
- Transmission Operator
- Interchange Authority

Reporting

The Resources Subcommittee reports to the NERC Operating Committee and shall maintain communications with the Market Committee, Planning Committee, and other groups as necessary on relevant issues.

Membership

- Eighteen members plus chairman.
Membership is based on regional representation (minimum of one member from each region) with the remaining members drawn from regions based on regional energy demand (load) proportionate to the entire North America energy demand (load).
- Each Region will select its member representatives to the Subcommittee with consideration to the technical expertise required.

Officers

Chairman and vice-chairman are selected by the Operating Committee chairman and vice-chairman. The chairman does not represent any industry sector.

Meeting Procedures

- Meeting procedures follow those of the “Organization and Procedures Manual for the NERC Standing Committees.”
- NERC will supply a facilitator for Subcommittee activities.
- Liaisons from NAESB, CEA, DOE, and others will be invited as required.

Subgroups

The Resources Subcommittee may form Working Groups, Task Groups, and Task Forces as needed to assist the Subcommittee in carrying out standing or ad hoc assignments. Task Group chairs (or delegates) are expected to attend the regular Subcommittee meetings to report on assignments.

Approved by OC: XXXXX

**Resources Subcommittee
January 28, 2005 Meeting
Open Action Item List**

Exhibit G

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
Carl Monroe	Complete RS Roster	<p>RS openings need to be filled. Don Benjamin sent a letter to OC Chair Cowbourne regarding openings.</p> <p>Note: 12/11/2002, Don Benjamin sent subcommittee "candidate" letter to Transmission Customers – Further action is on hold until the future of the subcommittees is decided</p> <p>2/28/2003, The RS is currently balanced: 7 – TP, 7 – TC, and 1 – Chair. The RS is short from a full roster by: 2 – TP, and 2 – TC. – ECAR nominated Gerry Mellinger to replace Bob Kissner (3/4/03)</p> <p>7/14/03, OC will address future RS membership by 1/1/04</p> <p>1/28/04, Need Canadian RS Member, and RS vacancies (Randy Jones appointed Vice Chairman)</p> <p>7/29/04, TV to visit with Don Benjamin regarding filling vacancies – need Canadian representatives.</p> <p>12/16/04, OC Subcommittee Officers met in Scottsdale to discuss subcommittee structure.</p> <p>1/28/05, RS has the authority to nominate candidates to fill vacancies. RS has developed Scope recommendation and will request the OC adapt its recommendation prior to filling the RS roster.</p>	1/28/05	
Carl Monroe	SPP Inadvertent Tool	<p>Carl to send a letter to FRCC (Linda Campbell) requesting FRCC to use the SPP Inadvertent tool. Ask for a way to automatically send data to NERC.</p> <p>7/31/03, Carl to call Linda Campbell to discuss SPP Inadvertent Tool or converting FRCC Inadvertent data to a compatible data format for the SPP tool.</p> <p>10/28/04, Carl to visit with Linda to follow-up discussions</p> <p>1/28/05, Carl to try to visit with Linda Campbell at next OC meeting.</p>	1/28/05	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
Carl Monroe	DCS Survey	<p>Carl to write letters to CAs that have disturbances larger than their largest contingencies (All of 2003).</p> <p>The intent is to verify that each "largest single contingency " is accurate and correct.</p> <p>7/31/03, Carl believes the results will give the subcommittee valuable data.</p> <p>1/30/04, Joe Emde to supply DCS data to Carl</p> <p>4/28/04, Carl to analyze and generate CA - DCS inquiry letters</p> <p>10/28/04, Question came up during the meeting – How often do the regions update their "Single Largest Contingency" Policy 1. B. 2.1 – Annual Review</p> <p>2.1. "Contingency review. All Reserve Sharing Groups and Control Areas shall at least annually review their probable contingencies to determine their prospective Most Sever Single Contingencies."</p> <p>Does each region have a definition of their "single largest contingency" and do the regions review and update the "single largest contingency" on an annual basis?</p> <p>RS Members surveyed to identify the regions single largest contingency on an annual basis.</p> <p>1/28/05, TV to draft lettere for Carl to send to regions requesting information from their annual review of their most severe single contingencies.</p>	1/28/05	
Carl Monroe	SPP AIE Tool	<p>4/28/04, Carl to research the SPP AIE tool. Evaluate the tool to determine if it is practical to use in the Eastern Interconnection.</p> <p>10/28/04, Ongoing activity</p> <p>1/28/05, , all 8/14/03 inadvertent interchange accounts have been updated.</p>	1/28/05	
Terry Bilke	Frequency Data Collection	<p>Collect historical frequency data to create a database.</p> <p>Note: Status – Terry has Eastern and Western Interconnections data, ERCOT needs to support the effort (Action Item for Wayne created)</p> <p>7/14/03 – Data has been collected. This should become an ongoing or periodic task (until frequency collection project is in place). This is a duplicate of an</p>	1/28/05	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
		<p>item for Joe Emde. Recommend compiling the three as an ongoing task. TB</p> <p>1/30/04, Terry to work with Joe Emde to establish a cross-reference check list to identify what has been received and what is deficient</p> <p>10/28/04, Follow-up with Terry to determine if this action item can be closed</p> <p>1/25/05, This item will also be discussed during the FDCAS item.</p>		
Terry Bilke	Eastern Interconnection Frequency Performance	<p>10/28/04, Carl asked Terry to contact Doug Hils and the ECAR Control Area Working Group (CAWG) to find out if the CAWG is still concerned with the eastern interconnection frequency that was documented in their April 27, 2004 letter. Terry will report his findings to the RS at the January RS meeting.</p> <p>1/25/05, Terry contacted MISO CAWG twice, still awaiting confirmation from MISO CAWG. If Terry does not receive a response by April meeting, the concern will be considered a non-issue and be closed.</p>	1/28/05	
Terry Bilke and Raymond Vice	Frequency Analysis Specifications	<p>012805 Terry and Raymond to draft frequency analysis and data retention requirements from the FDCAS specifications:</p> <ol style="list-style-type: none"> 1. Data Retention Specification (pulled out from the FDCAS) 2. Frequency Analysis Specification (pulled out from the FDCAS) 		
Tom Vandervort	IS Dynamic Transfer Catalogue	<p>4/28/04, TJV to visit with IS regarding cataloguing Dynamic Transfers and determine how RS can help the catalogue process.</p> <p>10/01/04, TJV visited with IS and found the Dynamic Transfer Catalogue project is still active but delayed due to IS resources.</p> <p>1/10/05, TJV visited with IS and found the standards V0 project has consumed IS time and manpower. The IS intends to pursue the Dynamic Transfer Catalogue sometime in calendar 2005.</p> <p>1/25/05, TV to follow up on this item with the IS</p>	1/28/05	
Tom Vandervort	OC Meeting, March 2005	<p>012805 Meeting Items for the March, 2005 OC Meeting</p> <ul style="list-style-type: none"> • Raymond moved the Resources Subcommittee to recommend the Operating Committee adopt the Changes to the Resources Subcommittee Scope recommended by the subcommittee. The motion passed. 	021005	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
		<ul style="list-style-type: none"> Carl to make a presentation to the OC on the interconnection frequency trends and RS concerns. 		
Tom Vandervort	RS Scope	012805 Incorporate the V0 Standards by name into the draft RS Scope	021005	
Tom Vandervort	RS Meeting, April 05	<p>012805 Include the following in the April RS meeting agenda:</p> <ul style="list-style-type: none"> Put “BA Certification Standard Review” on the agenda Discuss AIE Surveys for all interconnections (such as when do we call AIE Surveys) Discuss ACE Surveys for all interconnections (such as when do we call ACE Surveys) 	041505	
Tom Vandervort	ERCOT Request for DCS Exemption	012805 Pass the RS motion and discussion to NERC Compliance Group	021005	
Tom Vandervort	RS Issues Conf Call	<p>012805 Set up conference call between Carl, Don Benjamin, and myself to discuss:</p> <ol style="list-style-type: none"> NAESB Hourly Inadvertent (AIE) Data – RS needs direction on collecting hourly inadvertent data to satisfy NAESB payback business practices. Do we need a SAR to collect hourly data? Can NERC develop requirements or collect data without requiring a standard? Note: There are also RS benefits to collecting reconciled hourly data on a continuous basis. Frequency Analysis (OC Charge) – The EIPP is a strong candidate to perform the Eastern Interconnection frequency data collection, evaluations, reports, and ad hoc analysis. The EIIPP is an industry project, it does not report to NERC or to the OC. Does NERC need to have a contractual relationship with the parties that supply the frequency data? Data Quality Issue (lack of data flow from CAs to CERTS) - Determine why data transmitted from CAs is not reaching CERTS. Problem seems to be in NERC’s house. Problem was identified in the past, need to visit with Carl, Don, Joe Emde and Paul Baratelli (possibly Lynn C). 	020405	

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Tom Vandervort	EI Freq Analysis	<p>012805 TV to draft a letter from Carl to OC Regional Reps and EI Regional Managers – In order to respond to the OC charge, the RS will develop 1 and 2 for frequency analysis requirements for each of the interconnections by April XX. The RS will look at the different options to accomplish the frequency requirements that will be developed. Inquire of the EI Regions how they will meet the charge?</p> <p>(note: Terry and Raymond to draft frequency analysis and data retention requirements from the FDCAS specifications)</p>	022505	
Tom Vandervort	BRD SDT Target Research	012805 When received from Carlos, send the CERTS Final Report on Phase I, Target Research to the RS.	020405	
Tom Vandervort	Data Quality Meeting	012805 Set up Data Quality Meeting between NERC and CERTS to address data quality issues.	020405	
Tom Vandervort	FRCC ACE Data	012805 TV to inquire to find out why FRCC is not submitting data (data?)	030105	
Don Badley	AIE Software – Functionality System Review	<p>10/29/04, Don Badley to process RS Members Confidentiality Forms (work with Carlos as necessary) to allow them to review the CERTS AIE – in order to Test Functionality of the System</p> <ul style="list-style-type: none"> • Reconciled Hourly AIE Data • Reconciled Monthly Inadvertent Data <p>Don to attain addresses, phone numbers, e-mail addresses from the agenda item 1:</p> <p>Frequency Task Force Members to evaluate the AIE System:</p> <p>Don McInnis</p> <p>Don Badley</p> <p>Raymond Vice</p> <p>Terry Bilke</p> <p>Mike Potishnak</p> <p>Yuri Makarov</p> <p>12/10/04, Don Badley contacted WECC to identify why the WECC confidentiality</p>	1/28/05	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
		<p>agreements have not been sent to the FTF members. WECC replied to Don that the Non-Disclosure Agreements have not been sent yet, but would be sent in the near future.</p> <p>1/28/05, WECC committed to Don to send their confidentiality agreements to the listed RS FTF members this week. We will cover this item during the meeting agenda item 5b.</p>		
Don Badley and IITF	V0 Standards, Ref Docs, Training Docs	<p>012805 Task Forces to review V0 Standards:</p> <ul style="list-style-type: none"> • Review V0 Standards to ensure they are “safe and effectie” • Recommend moving sections within V0 to a Ref Doc • Recommend improvements to the V0 via a SAR • Recommend deletions of sections of V0 • Recommend forwarding sections of V0 to NAESB • Start with V0 Standards, Ref Docs, Training Docs <p>Standard BAL-006-0, Inadvertent Interchange, Version 0</p> <p>Training Document – Area Interchange Error Survey Training Document</p> <p>Training Document – Inadvertent Interchange Accounting Training Document</p>	042705	
Don Badley and IITF	AIE Surveys	012805 Inadvertent Interchange Task Force to incorporate a revision within V0 Standard to specify when to call AIE Surveys – discuss during April, 05 RS meeting	042705	
Don McInnis & Freq Task Force	Frequency Data Collection and Analysis Project	<p>Frequency Task Force to develop “benefits” justification for the project. Work with Bob Cummings to prepare “cost – benefits analysis” for the project to submit to the OC in July. See related Bob Cummings Action Item.</p> <p>Rename “Frequency Warehouse” to “Frequency Data Collection and Analysis” Project</p> <p>Status: FTF Conf call scheduled for May 1</p> <p>7/16/03, Carl and Bob Cummings to present the “Frequency Data Collection and Analysis” Project Cost – Benefits Analysis to the Regional Managers and the OC.</p> <p>7/31/03 – FTF to work with Bob Cummings to develop and distribute RFP (request for proposal) in order to attain cost estimates to present to the OC in November, 03.</p> <p>10/29/03 – Wayne Kemper to validate the three ERCOT transducer sites by 11/5/03.</p>	1/28/05	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
		<p>11/7/03 - Frequency Warehouse RFP to be issued.</p> <p>1/30/04, RFP Responses to be evaluated</p> <p>4/28/04, FTF meeting for vendor presentation and discussion on 5/6 – 7/04</p> <p>6/30/04, Vendor has been selected. RS Approval needs to be attained. Carl to present RS recommendations to the OC in July (July 21 – 22).</p> <p>07/22/04, Tom Vandervort and Brian Nolan presented the FDCAS project to the OC. After discussion and two votes, the OC approved the FDCAS project with the exclusion of Hydro Quebec.</p> <p>09/13/04, WECC CEO, sent a letter to NERC stating that the FDCAS is duplicative to frequency collection programs already in place at WECC.</p> <p>10/28/04, RS to discuss with WECC possible solutions to move the FDCAS project forward.</p> <p>The function and scope of the RS may need to be solidified – why is the frequency data needed by the RS. If the RS is the frequency keeper, then the subcommittee needs the frequency data.</p> <p>Nov 11, 2004, OC Meeting Minutes, Frequency Data Collection And Analysis System</p> <p>Following Mr. Monroe’s presentation, the committee discussed various other options for collecting frequency information. The WECC already collects and analyzes frequency data for the Western Interconnection, and the Eastern Interconnection phasor project may be able to provide frequency measurements and data collection for the Eastern Interconnection.</p> <p>Sam Jones then moved the following resolution:</p> <ol style="list-style-type: none"> 1. The OC expects the Interconnections (Eastern, Western, ERCOT, and Hydro-Québec) to analyze their frequency to determine if NERC’s balancing standards are “safe and reliable.” 2. The OC understands that the Interconnections’ frequency profiles may be different. 		

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		<p>3. The OC expects that these analyses be conducted according to a consistent set of analytical methodologies that the Resources Subcommittee establishes.</p> <p>4. The OC expects the Interconnections to maintain this data and cooperate with the Resources Subcommittee's needs to perform its analyses. The RS members will agree upon a data retention requirement.</p> <p>After further discussion, the Operating Committee approved Mr. Jones's motion.</p> <p>Sam Holeman then moved to direct the Operating Committee's regional representatives, regional managers, and the Resources Subcommittee to ensure that this resolution is implemented with consideration given to other wide-area data collection initiatives already underway.</p> <p>After further discussion, the Operating Committee approved Mr. Holeman's motion.</p> <p>1/28/05, This item is on the 1/28/05 RS Meeting Agenda</p>		
Don McInnis and Freq TF	V0 Standards, Ref Docs, Training Docs	<p>012805 Task Forces to review V0 Standards:</p> <ul style="list-style-type: none"> • Review V0 Standards to ensure they are "safe and effective" • Recommend moving sections within V0 to a Ref Doc • Recommend improvements to the V0 via a SAR • Recommend deletions of sections of V0 • Recommend forwarding sections of V0 to NAESB • Start with V0 Standards, Ref Docs, Training Docs <p>Standard BAL-003-0, Frequency Response and Bias, Version 0</p> <p style="padding-left: 40px;">Pay close attention to the variable bias calculation</p> <p>Standard BAL-004-0, Time Error Correction, Version 0</p> <p>Training Document – Frequency Response Characteristic Survey Training Document</p>		

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Mike Potishnak and ORTF	"Reserves" Standard	012805 Mike presented the initial Operating Reserves Standard draft to the RS. The RS consensus thought the proposal was a good start, had a lot of merit, but was too prescriptive in its language and proposed methodology. Mike and the ORTF will take the subcommittee comments into consideration in the next draft of the proposal.	042705	
Mike Potishnak and ORTF	V0 Standards, Ref Docs, Training Docs	012805 Task Forces to review V0 Standards: <ul style="list-style-type: none"> Review V0 Standards to ensure they are "safe and effective" Recommend moving sections within V0 to a Ref Doc Recommend improvements to the V0 via a SAR Recommend deletions of sections of V0 Recommend forwarding sections of V0 to NAESB Start with V0 Standards, Ref Docs, Training Docs Standard BAL-002-0, Disturbance Control Performance, Version 0	042705	
Alan Oneal and Control Criteria TF	V0 Standards, Ref Docs, Training Docs	012805 Task Forces to review V0 Standards: <ul style="list-style-type: none"> Review V0 Standards to ensure they are "safe and effective" Recommend moving sections within V0 to a Ref Doc Recommend improvements to the V0 via a SAR Recommend deletions of sections of V0 Recommend forwarding sections of V0 to NAESB Start with V0 Standards, Ref Docs, Training Docs Standard BAL-001-0, Real Power Balancing Control Performance, Version 0 Reference Document – Performance Standards Reference Document	042705	
Raymond Vice and AGC TF	V0 Standards, Ref Docs, Training Docs	012805 Task Forces to review V0 Standards: <ul style="list-style-type: none"> Review V0 Standards to ensure they are "safe and effective" Recommend moving sections within V0 to a Ref Doc Recommend improvements to the V0 via a SAR Recommend deletions of sections of V0 Recommend forwarding sections of V0 to NAESB Start with V0 Standards, Ref Docs, Training Docs Standard BAL-005-0, Automatic Generation Control, Version 0	042705	
Raymond Vice and AGC	ACE Surveys	012805 AGC Task Force to incorporate a revision within V0 Standard to specify when to call ACE Surveys – discuss during April, 05 RS meeting	042705	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
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Joe Emde	CPS1 Data	012805 Determine why KACY did not supply Nov, 04 data. Is there a problem?	042805	
Joe Emde	2005 CPS2 Bounds	012805 Joe to issue official CPS2 Bounds on February 1, 2005	020105	013105
Carlos Martinez	Data Quality	<p>Write an initial definition of "data quality" for the RS to review. (In conjunction with Terry Bilke's "why" data accuracy and quality are necessary.)</p> <p>7/14/03 – Terry received and commented on Carlos's data quality draft.</p> <p>8/1/03 – Carlos to send data quality summary to the subcommittee.</p> <p>10/28/03 – Carlos to send "completed" summary to the subcommittee</p> <p>1/30/04, One of the common themes from the BIT is data quality concerns, time stamps, and reporting requirements. Possibly report back at the next RS meeting.</p> <p>4/1/04, Terry submitted Data Quality SAR to Standards Process</p> <p>4/28/04, Discuss during the meeting, Carlos to distribute Data Quality White Paper</p> <p>6/30/04, CERTS – Carlos Martinez, Arun Harnoor, and Romulo Barreno are collaborating on the Data Quality issues, concerns, problems, remedies, solutions and possible future project(s). First step will be to complete the white paper.</p> <p>7/28/04, Carlos to present, review, and discuss Data Quality White Paper with RS</p> <p>10/28/04, Carlos to update current status of Data Quality White Paper with RS</p> <p>1/28/05, Carlos to update</p>	1/28/05	
Carlos Martinez and Joe Emde	ACE and AIE – Data "Unavailability" for CERTS	<p>During the last April RS meeting, Carlos Martinez asked the RS to give CERTS feedback on the frequency desired for data output. The discussion led to an action item for the Frequency Task Force to give CERTS the frequency parameters on "unavailability." To determine what and when frequency is considered to be "unavailable."</p> <p>8/1/03 – Both NERC and CERTS to identify why CERTS is not receiving all CA data. Carlos to work with Joe Emde and Paul Baratelli and correct discrepancies.</p> <p>10/28 – CAs not reporting; CAs reporting but not reliable; CAs reporting and reliable;</p>	1/28/05	

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		<p>ready to send to subcommittee.</p> <p>1/30/04, Due to time restraints, Carlos has not had time to identify who is not supplying data to CERTS. Carlos to work with Paul Baritelli to resolve the issue.</p> <p>This is important, If Carlos can get the detailed information where the break-downs are, Carl can pass the information and statistics on to the OC at its next meeting.</p> <p>It may be a vicious circle. NERC needs to feed back to the CAs to identify which are not submitting data. (i.e. if the CAs are submitting data and NERC is not receiving the data, a notification needs to be made from NERC to the CAs in order to identify why it is not being received). If there is a break down or miscommunications – they need to be resolved and fixed!</p> <p>Carlos, Tom, Paul, to visit and determine how to establish a receipt process for the data. Possibly include DEWG (data exchange working group) – Enlist Carl's help if necessary!</p> <p>3/1/04, Joe E started validating data transmittal nodes and contacting control areas</p> <p>4/28/04, Discuss during the meeting, Carlos to distribute Data Quality White Paper to the subcommittee.</p> <p>10/28/04, Joe and Carlos to discuss with the RS the current status of the AIE and ACE data and the amount of data that is "available" and "unavailable," and what additional steps can be taken to remedy the situation.</p> <p>1/28/05, Carlos to update</p>		