



# NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

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

## Resources Subcommittee Meeting

July 27–29, 2005  
Salt Lake City, Utah

### Minutes

A regular meeting of the North American Electric Reliability Council Resources Subcommittee (RS) was held on July 27–29, 2005 in Salt Lake City, Utah. 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 member Raymond Vice presided in the absence of Chairman Carl Monroe. The secretary announced that a quorum was present.

#### Minutes of the Previous Meeting

The subcommittee approved the May 4–6, 2005 Resources Subcommittee meeting minutes.

#### Resources Subcommittee Scope and Membership

The Operating Committee is in the process of revising the subcommittee scope and membership criteria and will consider the submitted RS recommendations.

All NERC regions have representation on the Resources Subcommittee at this time.

#### Resources Subcommittee Action Item List

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

#### Task Force Reports

##### Frequency Task Force – Chairman Raymond Vice

###### *Balance Resources and Demand Draft Standard Field Test*

The Frequency Task Force hosted a WebEx meeting to discuss the Balance Resources and Demand draft standard, proposed Phase II field test. The WebEx participants included the Resources Subcommittee and members of the Operating Reliability Subcommittee, the Reliability Coordinator Working Group (RCWG), the Balance Resources and Demand Standard Drafting Team, and industry participants.

Raymond Vice and Doug Hils summarized the results of the Phase I field test and the expectations of the Phase II field test. The following Phase II field test items were discussed:

- There has not been a negative impact on the Eastern Interconnection frequency due to the Phase II field test that began on July 6, 2005.
- The Balance Resources and Demand Standard Drafting Team has not received any negative calls or comments from any Eastern Interconnection RC or BA.

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- The RCs on the call endorsed going forward with the next part of the Phase II field test.
- The authority, criteria, and methodology for an RC to suspend the entire Phase II field test or an individual BA’s participation in the field test was reaffirmed.
- The next Phase II field test BA volunteers will be added to the field test on August 1, 2005.

The Balance Resources and Demand Standard Drafting Team will host the next Phase II field test status conference call on August 24, 2005 at 10 a.m., Eastern Daylight Time.

*BAL-003, Frequency Response and Bias*

Terry Bilke incorporated frequency response language into the BAL-003, “Frequency Response and Bias,” draft standard in preparation for submittal to the Standards Authorization Committee. The subcommittee made a few changes and the secretary forwarded the draft to the NERC standards process manager for additional formatting and editing.

**Operating Reserves Task Force-Mike Potishnak**

*BAL-002, Disturbance Control Performance*

Larry Akens incorporated contingency reserves language into the current BAL-002, “Disturbance Control Performance” draft standard, which the subcommittee reviewed and revised. The Operating Reserves task force will continue working on the draft standard and intends to present it to the subcommittee in the near future for additional technical analysis.

**Inadvertent Interchange Task Force-Don Badley**

*BAL-004, Time Error Correction*

Don Badley incorporated automatic time error correction language into the BAL-004, “Time Error Correction” draft standard, which the subcommittee reviewed and revised. The final draft includes time error correction requirements that are associated with frequency of the interconnections.

*BAL-006, Inadvertent Interchange*

Don Badley incorporated inadvertent interchange language into the BAL-006, Inadvertent Interchange draft standard, which the subcommittee reviewed and revised. The final draft includes inadvertent interchange payback requirements that are associated with frequency of the interconnections.

**Control Criteria Task Force-Alan Oneal**

*BAL-001, Real Power Balancing Control Performance*

Alan Oneal incorporated language clarification to the BAL-001, Real Power Balancing Control Performance draft standard, which the subcommittee reviewed and revised.

**NERC Glossary of Terms Used in Reliability Standards**

A request was made to the Resources Subcommittee (RS) to evaluate two terms found in the NERC Glossary of Terms: “Spinning Reserve” and “Operating Reserve – Spinning.”

The RS evaluated the two terms and proposes replacing “spinning reserve” wherever the term is used in NERC documents with “operating reserve-spinning.” Before taking action, the subcommittee wants the regions to determine if this action would conflict with regional standards and procedures. Comments from the regions’ technical experts are requested by August 26, 2005.

Current NERC Glossary of Terms Definitions Used in Reliability Standards	
Spinning Reserve	Unloaded generation that is synchronized and ready to serve additional demand.
Operating Reserve – Spinning	The portion of Operating Reserve consisting of:

	<ul style="list-style-type: none"> <li>• Generation synchronized to the system and fully available to serve load within the Disturbance Recovery Period following the contingency event; or</li> <li>• Load fully removable from the system within the Disturbance Recovery Period following the contingency event.</li> </ul>
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If the RS approves this action, “operating reserve-spinning” will replace spinning reserve” wherever the term is used as a part of a future SAR.

## Projects

### *ACE Project 2000-03*

The Consortium for Electricity Reliability Technology Solutions project manager Carlos Martinez reported that CERTS is expecting to distribute the ACE-Frequency software, Release 3, in early August 2005. Release 3 will revise 2005 performance data and incorporate additional geographical jurisdiction adjustments, annunciate when data is not updated in a two-minute span, or when a data link fails to transmit data.

### *AIE Project 2000-04*

CERTS sent the AIE software and initial actual WECC sample data to the RS Frequency Task Force evaluation team to review and analyze the software and recommend whatever changes are needed to produce the analyses and reports that the task force is expecting. Mr. Martinez is working with the team. Based on RS comments, CERTS will consider incorporating an automatic AIE data form or spreadsheet that will populate specific data when trigger limits are reached. Automatic data entry will relieve manual data transmittals and expedite the AIE analysis capabilities.

### *Inadvertent Checkout Web Site (SPP Inadvertent Tool Migration) Project 2001-37*

CERTS is currently in the process of migrating the SPP inadvertent interchange database to NERC and duplicating the user interface. New inadvertent interchange analysis and tool recommendations were submitted from a number of different sources and are being incorporated into the software. CERTS estimates the completion of the SPP Inadvertent Tool migration to be in August 2005. Both the current SPP tool and the new CERTS inadvertent interchange tool will be operated in parallel until the BAs are comfortable using the new CERTS software. At that time, the SPP tool will be retired.

### *RS Frequency Data Collection and Analysis and the Eastern Interconnection Phasor Project*

Terry Bilke and Carlos Martinez reviewed the status of the Eastern Interconnection Phasor Project (EIPP). The EIPP participants will collect and store the frequency, but will not analyze the data. The subcommittee will collect Eastern Interconnection frequency data to use and analyze. The EIPP participants and the RS will eventually share the tools and methodologies developed from their collaboration with the WECC and ERCOT Interconnections and Hydro Québec for their frequency analysis applications.

### *ACE-Frequency Data Quality Improvements*

Carlos Martinez presented the CERTS Data Quality report and the NERC-CERTS-RS strategies to improve the ACE-Frequency data submittal and processing. This includes an alarm function that notifies NERC, CERTS, RCs, and the initiating “signal sender” that transmission has been lost or skewed. NERC and CERTS will hold a joint meeting to discuss data quality performance, new hardware and software, and both near-term and long-term data quality issues.

## **Frequency Performance**

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

### *Eastern Interconnection Frequency Performance*

Bill Herbsleb and Terry Bilke reviewed the Eastern Interconnection frequency performance. The subcommittee discussed recent frequency excursions noting that the Eastern Interconnection had recovered from each excursion in a timely manner. The RCs and BAs have recovered from each frequency excursion in accordance with the standards and excellent operating practices to return frequency to normal bounds. The RS will continue to closely monitor the Eastern Interconnection frequency errors.

### *ERCOT Interconnection Frequency Performance*

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

### *Western Interconnection Frequency Performance*

Don Badley reviewed the Western Interconnection frequency performance. There were no significant events during the recent quarter.

### *CPS1 Review*

The subcommittee reviewed the monthly and 12-month rolling average CPS1 data for trends and violations. There are no current CPS1 violations. However, some BAs have monthly values below 100%. (See the discussion under CPS2 Violations, below.)

### *CPS2 Violations*

The NERC compliance group has identified balancing authorities that have been below 100% of their CPS1 monthly average or have been non-compliant below the required 90% of their monthly CPS2, for April, May, and June 2005. The compliance group suspects the non-compliant CPS2 balancing authorities within the MISO footprint are related to the MISO market start-up, which started on April 1, 2005. MISO informed Dave Hilt, NERC vice president of compliance, that it is changing its dispatch algorithm and has a work-around for the short term. MISO also reported that they hope to have the issue resolved by the end of July, or in August at the latest. Mr. Hilt requested the RS review the MISO CPS1 and CPS2 issues, evaluate the proposed solution and determine if the solution is workable.

Terry Bilke presented the "MISO CPS Overview." A lengthy discussion followed of both the causes and proposed ACE Diversity Interchange (ADI) corrective action to address the CPS2 non-compliant MISO BAs.

MISO will implement an ADI program within the MISO footprint, on Monday, August 1, 2005. ADI can be thought of as a form of supplemental regulation. The NERC reliability standards, supplemental regulation, and the MISO ADI program are acceptable forms of regulation. Some subcommittee members have in-depth knowledge of the ADI and the results that it can achieve for MISO. These members agreed that the ADI will allow all MISO BAs to be compliant with CPS2.

In summary, MISO does take its BAs' CPS2 non-compliance for April, May, June, and July very seriously. MISO has evaluated the situation, asked the opinion of other technical experts (from NPCC, MRO, MAAC) to address the situation, and chose the ADI program to remedy the situation. The RS endorses and believes the ADI program will be an adequate resolution. MISO will implement the ADI program on Monday, August 1, 2005.

### *Disturbance Control Standard*

The subcommittee reviewed the 2005 2<sup>nd</sup> quarter DCS data. There was one event during the quarter in which a balancing authority did not recover within the DCS recovery period. This BA has committed to increase its contingency reserves for the next three months.

### *RC Frequency Action Initiatives, AIE and Frequency Characteristic Surveys*

The RS has developed a “Proposed Frequency Monitoring and Response Process for the Eastern Interconnection.” The Eastern Interconnection reliability coordinators are currently using this process as part of the Balance Resources and Demand draft standard Phase II field test. The subcommittee revised the language, included AIE and frequency characteristic survey trigger points specifying when to call the surveys, and expanded the RC action instructions. The subcommittee is reviewing the document and sharing it with their operations staff. When the subcommittee reaches a consensus, it will be forwarded to the Reliability Coordination Working Group for their review, comment, endorsement, and use.

After the RS and RCWG reach consensus on this document, similar guides will be proposed for the WECC and ERCOT Interconnections, and Hydro Québec. The respective RS members were encouraged to share the document with their regional technical experts to attain their comments.

### **Time Error**

#### *Eastern Interconnection*

The Eastern Interconnection called 85 time error corrections during the 2<sup>nd</sup> quarter 2005: 0 Slow TECs; 85 Fast TECs.

#### *ERCOT Interconnection*

The ERCOT Interconnection called 11 time error corrections during the 1<sup>st</sup> quarter 2005: 1 Slow TECs; 10 Fast TECs.

#### *WECC Interconnection*

The Western Interconnection called 23 time error corrections during the 1<sup>st</sup> quarter 2005: 13 Slow TECs; 10 Fast TECs.

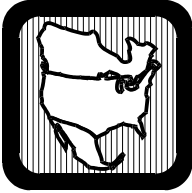
### **Dates and Locations of Future Meetings**

- |                          |                           |
|--------------------------|---------------------------|
| 1. October 26–28, 2005   | Asheville, North Carolina |
| 2. February 8–10, 2006   | Scottsdale, AZ            |
| 3. May 3–5, 2006         | Washington D.C.           |
| 4. September 20–22, 2006 | Quebec City, QU           |
| 5. November 15–17, 2006  | Ft. Lauderdale, FL        |

Respectfully submitted,

*Tom Vandervort*

Thomas J. Vandervort  
Resources Subcommittee Secretary



## Exhibit A

# NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

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

## Resources Subcommittee

Wednesday, July 27, 2005 — 8 a.m. to 5 p.m.

Thursday, July 28, 2005 — 8 a.m. to 5 p.m.

Friday, July 29, 2005 — 8 a.m. to noon

## Meeting Logistics and Registration Form

<b>Hotel</b>	Embassy Suites Hotel 110 W. 600 South Salt Lake City, UT 84101
<b>Phone and fax</b>	Ph: 801-359-7800 © Fax: 801-359-3753
<b>Room rate</b>	\$109 single/double occupancy
<b>Block name</b>	NERC-RS
<b>Room block</b>	Nights of July 26–28, 2005
<b>Reservation cut-off date</b>	<b>Monday, June 27, 2005</b> (NOTE: After this date, the hotel will release this block of rooms and only accept reservations on a space-available basis.)
<b>Check-in and check-out times</b>	Check in: 3 p.m. Check out: noon
<b>Transportation</b>	The hotel is located about ten minutes from the Salt Lake International Airport. <ul style="list-style-type: none"> <li>• Shuttle service is available at baggage claim. Cost: Approximately \$15</li> <li>• Taxi: Approximately \$25</li> </ul>
<b>Hotel reservation instructions</b>	You must mention the “NERC/North American Electric Reliability Council-RS” meeting to ensure that the hotel credits your reservation to the NERC room block and to get the preferred rate. <i>The hotel may charge NERC a penalty if the total rooms blocked for this event are not picked up.</i> Also, if you use a travel agency for your travel plans, please make sure the agency mentions NERC.
<b>Attire</b>	Business casual.

**Please type or print.**

<b>Name:</b>		
<b>Title:</b>		
<b>Company:</b>		
<b>Telephone:</b>		
<b>Email:</b>		
<b>Proxy:</b> <input type="checkbox"/>	<b>Guest:</b> <input type="checkbox"/>	<b>Member for whom you are a proxy:</b>
<b>Attending:</b> <input type="checkbox"/>	<b>Not Attending:</b> <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, July 27, 2005 — 8 a.m.–5 p.m.

Thursday, July 28, 2005 — 8 a.m.–5 p.m.

Friday, July 29, 2005 — 8 a.m.–noon

Embassy Suites Hotel

110 W. 600 South

Salt Lake City, Utah

Phone: 801-359-7800 ☎ Fax: 801-359-3753

## Agenda

### Frequency Task Force Conference Call

### Balance Resources and Demand Standard Field Test Discussion

Wednesday, July 27, 2005

Conference Call Time: 1–3:30 p.m. PDST (3–5:30 p.m. EDST)

Phone Number: (732) 694-2061

Access Code: 1108072705

1. **Administrative**
  - a. Membership and Guests – Chair
  - b. Introductions – Chair
  - c. Organization, Roster, and Survey Contacts List – Secretary
  - d. Arrangements – Secretary
  - e. Approval of May 4–6, 2005, 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. Control Criteria Task Force – Alan Oneal
  - c. Frequency Task Force – Raymond Vice
  - d. Inadvertent Task Force – Don Badley

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- e. Reserves Task Force – Mike Potishnak

### **3. Compliance**

- a. Compliance and Certification Managers Committee Liaisons – Joe Willson, Raymond Vice
- b. MISO Members CPS Monthly Values – Joe Willson, Raymond Vice, Carl Monroe
- c. RS Recommendation to Readiness Audit ACE and CPS Calculations – Don Badley

### **4. NERC Reliability Standards**

- a. Standard BAL-001-0, Real Power Balancing Control Performance – Carl Monroe
- b. Standard BAL-002-0, Disturbance Control Performance – Carl Monroe
- c. Standard BAL-003-0, Frequency Response and Bias – Carl Monroe
  - i) Frequency Response Standard SAR – Terry Bilke
- d. Standard BAL-004-0, Time Error Correction – Carl Monroe
- e. Standard BAL-005-0, Automatic Generation Control – Carl Monroe
- f. Standard BAL-006-0, Inadvertent Interchange – 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. Proposal for Operating Reserve Standard – Mike Potishnak, Larry Akens
- m. WECC Frequency Responsive Reserve Standard – Don Badley
- n. CPS Calculation Tool – Terry Bilke
- o. Standards Definition: Spinning Reserves – 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. Responsibility for Initiating AIE Surveys – Informational Item
- h. High Frequency Issue – Terry Bilke, Raymond Vice, Carl Monroe
  - i) RS Proposed Frequency Monitoring and Response Process for the Eastern Interconnection – Carl Monroe, Raymond Vice
  - ii) Decline of the Eastern Interconnection Frequency Response – Raymond Vice

### **7. Time Error**

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

**8. Dynamic Transfer Catalog**

**9. Future Meetings**

- a. October 26–28, 2005 – Asheville, NC
- b. February 8–10, 2006 – Scottsdale, AZ
- c. May 3–5, 2006 – Washington, D.C.
- d. September 20–22, 2006 – Québec City, QU
- e. November 15–17, 2006 – Ft. Lauderdale, FL

## Exhibit C

### Resources Subcommittee Meeting July 27–29, 2005 Salt Lake City, Utah

<b>RS Meeting Attendance Sheet</b>	
<b>Resources Subcommittee Member/Guest</b>	<b>Organization</b>
Larry Akens	TVA/SERC
Don Badley	NWPP
Gerry Beckerle	Ameren
Terry Bilke	MISO
Sydney Niemeyer	Texas Genco, LP
Mike Potishnak	ISO-NE
Bill Herbsleb (for Joe Willson)	PJM
Raymond Vice	Southern Company
Tom Vandervort	NERC
Robert Blohm	Economist/Consultant
Carlos Martinez	CERTS/EPG

## Exhibit D

**Individual Statements  
Resources Subcommittee Meeting  
July 27–29, 2005**

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***None***

**Minority Opinions  
Resources Subcommittee Meeting  
July 27–29, 2005**

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**There were none.**

## Resources Subcommittee

July 27, 2005 Meeting

### Open Action Item List

## Exhibit F

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
Carl Monroe	Complete RS Roster	72805, The OC is in the process of developing new subcommittee structure and membership criteria. The OC should unveil its new criteria at its next meeting in September.	01/01/06	
Carl Monroe	SPP Inadvertent Tool Use by FRCC	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.  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.  10/28/04, Carl to visit with Linda to follow-up discussions  7/28/05, Carl to visit with Linda Campbell at next OC meeting.	09/13/05	
Carl Monroe	SPP AIE Tool	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. 10/28/04, Ongoing activity  1/28/05, all 8/14/03 inadvertent interchange accounts have been updated.  072805, Carl to update at next meeting.	10/28/05	
Carl Monroe	FRCC BAs CERTS ACE-Frequency Data	072805, Carl to contact FRCC Regional Manager to request data be submitted as BA data instead of regional data to NERC to populate the CERTS ACE-Frequency displays. TV to draft a letter for Carl. Letter sent to Carl for his review on 080205.	090105	
Terry Bilke	When to Call "Surveys"	050505, Terry will evaluate EI historical data and significant events and recommend "survey" initiation criteria (criteria that would require approximately 3 surveys a year). WECC and ERCOT have existing criteria for calling "surveys."  As an interim guide for the Eastern Interconnection, the RS recommends AIE surveys be called when the following circumstances occur: <ul style="list-style-type: none"> <li>Any sudden change of frequency greater than 35 mHz which cannot be explained by a known disturbance or</li> </ul>	090105	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
		<ul style="list-style-type: none"> <li>Any sustained frequency change of greater than 20 mHz-low or 35 mHz-high or daily RMS of 20 mHz or higher.</li> </ul> <p>072805, RS Proposed Frequency Monitoring and Response Process for the Eastern Interconnection was reviewed and enhanced, sent to the subcommittee for another round of review, and will be forwarded to the RCWG for their review, endorsement and use during their September meeting.</p> <p>When the RS and RCWG attain consensus on this EI document, the WECC, ERCOT, and HQ RS members are encouraged to share it with their regional technical experts in preparation to initiate similar guides in their footprints.</p>		
Tom Vandervort	NERC Glossary of Terms: "spinning reserve" and "operating reserve – spinning"	072905, RS evaluated the two terms and proposes deleting "spinning reserve" wherever the term is used and replacing it with "operating reserve—spinning" in its place. Prior to taking this action, the subcommittee wants to know if the regional standards and procedures will be negatively affected by the deletion and substitution. Regional Managers and RS survey contacts were asked to respond by August 26, 2005 with negative impact comments.	10/1/05	
Tom Vandervort	Incorporate ERCOT data into the CERTS ACE-Freq Displays	080205, TV contacted Paul Baratelli, NERC IT staff in charge of the data flow to the CERTS ACE-Freq display. Requested Paul to follow-up with whatever is necessary to attain ERCOT data to populate the CERTS ACE-Frequency displays.	09/01/05	
Tom Vandervort	Freq Analysis Specs – RS Review	072905, The RS wanted another chance to review the proposed interconnections Frequency Analysis Specifications. TV sent the specs to the RS on 080205, for another review. The frequency analysis specifications will be for the EI, WECC, ERCOT interconnections, and HQ.	090105	
		The RS needs to take action prior to the OC meeting in September, 2005		
Tom Vandervort	CERTS Inadvertent Interchange Software	072905, Carlos identified a problem with administration rights of the Inadvertent Interchange software, identified during the WECC II training session. The problem lies with the rights of the administrator for the CERTS software programs. User level / admin level / global level – access to address entries, corrections, adjustments, etc.	090105	
		TV contacted Bob Cummings and Carlos to set up a discussion on this topic.		
Tom Vandervort	Review Freq Monitoring Guide	072905, RS reviewed and revised the RS Frequency Monitoring and Response Process for the Eastern Interconnection. TV to sent it to the subcommittee for another review prior to sending it to RCWG for their review during their next meeting.	080505	
Don Badley	AIE Software – Functionality System	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	10/1/05	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
	Review	<p>Functionality of the System</p> <ul style="list-style-type: none"> <li>• Reconciled Hourly AIE Data</li> <li>• Reconciled Monthly Inadvertent Data</li> </ul> <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 Badley</p> <p>Raymond Vice</p> <p>Terry Bilke</p> <p>Mike Potishnak</p> <p>Yuri Makarov</p> <p>Tom Vandervort</p> <p>Brian Nolan</p> <p>12/10/04, Don Badley contacted WECC to identify why the WECC confidentiality 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> <p>050505, CERTS sent AIE software and WECC data to RS FTF for initial analysis and evaluation. Frequency Task Force will analyze the data / summarize the results / make recommendations. Timetable-by July 30, 2005</p> <p>072805, CERTS – RS Frequency Task Force review team had problems accessing the CERTS AIE software and data. CERTS is addressing the problem. The deadline was pushed back to give the team time to analyze the software and data..</p>		
Don Badley	V0 Standards, Ref	012805 Task Forces to review V0 Standards:	090105	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
and IITF	Docs, Training Docs	<ul style="list-style-type: none"> <li>• Review V0 Standards to ensure they are “safe and effective”</li> <li>• Recommend moving sections within V0 to a Ref Doc</li> <li>• Recommend improvements to the V0 via a SAR</li> <li>• Recommend deletions of sections of V0</li> <li>• Recommend forwarding sections of V0 to NAESB</li> <li>• Start with V0 Standards, Ref Docs, Training Docs</li> </ul> <p>Standard BAL-004-0, Time Error Correction, Version 0</p> <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> <p>050505, On-going activity.</p> <p>072805, Draft BAL-004, TEC and BAL-006, Inadvertent Interchange are to be discussed during this meeting. (agenda item 4). In progress.</p>		
Don Badley and IITF	AIE Surveys	<p>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 and how to call an AIE Survey</p> <p>050505, When to call surveys are to be included in the standards review and recommendations.</p> <p>072805 In progress. When RS and RCWG attain consensus on RS Proposed Frequency Monitoring and Response Process for the Eastern Interconnection, this item will be closed.</p>	090105	
Don Badley and IITF	EI Adoption of WATEC	<p>050505, 1) The Inadvertent Interchange Task Force will review and consider incorporating the WATEC into the NERC Reliability Standards for inadvertent payback. The Task Force will develop a SAR to accomplish this revision following its review. The RS believes this function needs to be returned to the NERC Reliability Standards.</p> <p>2) The Inadvertent Interchange Task force will review and consider the need for incorporating clarifying language into the NERC Reliability Standards for Inadvertent Interchange Payback. Language to be considered is: “The official “ACE Equation” does not include any adjustments unilateral inadvertent interchange payback, Western Interconnection Automatic Time Error Control (WATEC), etc.”</p>	090105	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
		072805, Automatic Time Error (ATC) is included in the IITF BAL-006 draft. Draft standard will be revised and distributed to the subcommittee for additional comments.		
Don Badley	Review Freq Monitoring Guide	072905, RS reviewed and revised the RS Frequency Monitoring and Response Process for the Eastern Interconnection. TV to send it out to the subcommittee for another review prior to sending it to RCWG for their review during their next meeting. Don is to review (and share it with the WECC technical experts) the EI Frequency Monitoring Guide and consider a similar WECC Frequency Monitoring Guide.	100105	
Raymond Vice and Freq TF	V0 Standards, Ref Docs, Training Docs	<p>012805 Task Forces to review V0 Standards:</p> <ul style="list-style-type: none"> <li>• Review V0 Standards to ensure they are “safe and effective”</li> <li>• Recommend moving sections within V0 to a Ref Doc</li> <li>• Recommend improvements to the V0 via a SAR</li> <li>• Recommend deletions of sections of V0</li> <li>• Recommend forwarding sections of V0 to NAESB</li> <li>• Start with V0 Standards, Ref Docs, Training Docs</li> </ul> <p>Standard BAL-003-0, Frequency Response and Bias, Version 0</p> <p>Pay close attention to the variable bias calculation</p> <p>Training Document – Frequency Response Characteristic Survey Training Document</p> <p>050505, On-going activity</p> <p>072805, Terry has included initial FRS language into BAL-003. Frequency TF needs to evaluate Version 0 and enhance as necessary. (agenda item 4). Terry has drafted a revision to BAL 003 and the RS sent it to the SAC for discussion along with the comment responses. In progress.</p>	090105	
Raymond Vice and AGC TF	ACE Special Cases Pseudo Ties and Dynamic Transfers	<p>050505, The AGC Task Force will review and consider incorporating the ACE Special Cases or the Dynamic Transfer White Paper into BAL-001 or BALI-005. The Task Force will develop a SAR to accomplish this revision following its review. The RS believes this function needs to be returned to the NERC Reliability Standards.</p> <p>072805, Alan and CCTF have incorporated the ACE Special Cases into the draft BAL-001. (agenda item 4)</p> <p>BAL 005 to be revised to include ACE Special cases and pseudo ties. In progress</p>	090105	
Raymond Vice and Freq TF	Generator's Obligation to Support Interconnection Frequency	050505, The RS agrees that there is no requirement for the generators to support interconnection frequency in existing standards. The RS believes the generators should support interconnection frequency possibly through an ancillary services market.	100105	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
		<p>Generator requirements should be included in NERC standards unless there is a robust ancillary service market or other mechanism for providing turbine governor response. As proposed the FRS SAR will not require generators to support interconnection frequency. However, MOD-027-01 that is currently under development, does have such a requirement. If this standard is passed as written, no further action is required. If MOD-027-1 is not authorized, then the Frequency Task Force will review and consider an appropriate generator governor SAR.</p> <p>072805, The Frequency TF will review Raymond Vices's "Frequency Issues 2005" and determine what actions may be appropriate to address the concerns</p>		
Raymond Vice and Freq TF	Combustion Turbine Governor Response	<p>050505, The Combustion Turbine Governor Response issue only occurs when gas turbines are operating at maximum output limited by blade temperature as indicated by exhaust gas temperature and only limits response to low frequency deviations. It is not clear what percentage of gas turbines operate in this mode at any given time. In addition, the mass flow of air through the compressor of a gas turbine varies geometrically with frequency (speed of the compressor). This may reduce the ability of the turbine to respond to frequency deviation. The Frequency Task Force will continue to investigate these issues and determine if a NERC Reliability Standard requirement(s) is necessary.</p> <p>072805, Raymond contacted local GE governor engineering staff which will possibly put him in contact with the right individuals (possibly John Undrill). Frequency TF will address the issues and concerns. Raymond may possibly invite John Undrill to the next Frequency Task Force meeting to discuss governor response.</p>	100105	
Larry Akens and ORTF	"Reserves" Standard	<p>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.</p> <p>050505, Larry Akens and Mike Potisnak will work together on this Action Item.</p> <p>072805, Larry drafted, distributed, and led a discussion on "Operating Reserves" proposal included in BAL-002, Disturbance Control Performance, during the ORTF meeting. Larry will enhance the draft using the comments from the task force and distribute to the RS for additional comment. In progress.</p>	090105	
Larry Akens and ORTF	V0 Standards, Ref Docs, Training Docs	<p>012805 Task Forces to review V0 Standards:</p> <ul style="list-style-type: none"> <li>• Review V0 Standards to ensure they are "safe and effective"</li> <li>• Recommend moving sections within V0 to a Ref Doc</li> <li>• Recommend improvements to the V0 via a SAR</li> <li>• Recommend deletions of sections of V0</li> </ul>	090105	

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		<ul style="list-style-type: none"> <li>• Recommend forwarding sections of V0 to NAESB</li> <li>• Start with V0 Standards, Ref Docs, Training Docs</li> </ul> <p>Standard BAL-002-0, Disturbance Control Performance, Version 0</p> <p>050505, On-going activity</p> <p>072805, ORTF will review BAL-002-0 and enhance as necessary. Mike will draft and distribute recommendations for the RS to consider during this meeting. Larry presented his initial draft to the ORTF and enhanced the draft using the comments from the task force. In progress.</p>		
Larry Akens and ORTF	WECC DCS Consideration	<p>050505, The Operating Reserve Task Force will review the WECC DCS grace period of 60 minutes and consider incorporating the language into a SAR during the RS standards review process. Mike Potishnak to attain the details from Don Badley.</p> <p>072805, Don Badley to send the WECC DCS criteria and details to Larry for BAL-002, Disturbance Control Performance, consideration. In progress.</p>	090105	
Raymond Vice and AGC TF	V0 Standards, Ref Docs, Training Docs	<p>012805 Task Forces to review V0 Standards:</p> <ul style="list-style-type: none"> <li>• Review V0 Standards to ensure they are “safe and effective”</li> <li>• Recommend moving sections within V0 to a Ref Doc</li> <li>• Recommend improvements to the V0 via a SAR</li> <li>• Recommend deletions of sections of V0</li> <li>• Recommend forwarding sections of V0 to NAESB</li> <li>• Start with V0 Standards, Ref Docs, Training Docs</li> </ul> <p>Standard BAL-005-0, Automatic Generation Control, Version 0</p> <p>050505, On-going activity</p> <p>072805, In progress.</p>	090105	
Raymond Vice and Freq TF	Frequency Response Characteristics Surveys	<p>012805 Frequency Task Force to incorporate a revision within V0 Standard to specify when to call Frequency Responsive Characteristics Surveys – discuss during April, 05 RS meeting</p> <p>050505, When to call Frequency Response Characteristics surveys are to be included in the standards review.</p> <p>072805, Frequency Response Characteristics survey trigger point (when to call a survey) is included in the RS “Proposed Frequency Monitoring and Response</p>	101005	

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		Process for the Eastern Interconnection.” When the RS and RCWG attain consensus on this document, this item will be closed.		
Raymond Vice and Freq TF	Frequency Issues 2005, White Paper	072905, The RS did not have time to review and discuss Raymond’s Frequency Issues 2005, white paper. The Frequency TF will review the concerns identified in the white paper and propose actions or discussion points for the RS to consider.	100105	
Raymond Vice and Freq TF	Dynamic Transfer Catalogue	072905, The IS requests the RS review and enhance the draft of the Dynamic Transfer Catalogue Survey during the July meeting. The RS did not have sufficient time to address this agenda item. Raymond volunteered the Frequency Task Force to address the catalogue and to make suggestions prior to the next IS meeting, August 24 – 26.  080405, Raymond and Terry sent comments to RS and to IS (through Bill Blevins) for inclusion in the DTC.	081505	
Sydney Niemeyer	Review Freq Monitoring Guide	072905, RS reviewed and revised the RS Frequency Monitoring and Response Process for the Eastern Interconnection. TV to send it out to the subcommittee for another review prior to sending it to RCWG for their review during their next meeting. Sydney is to review (and share with ERCOT technical experts) the EI Frequency Monitoring Guide and consider a similar ERCOT Frequency Monitoring Guide.	100105	
Carlos Martinez	Data Quality	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.)  071403 – Terry received and commented on Carlos’s data quality draft.  080103 – Carlos to send data quality summary to the subcommittee.  102803 – Carlos to send “completed” summary to the subcommittee  013004, 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.  040104, Terry submitted Data Quality SAR to Standards Process  042804, Discuss during the meeting, Carlos to distribute Data Quality White Paper  063004, 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.	100105	

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		<p>072804, Carlos to present, review, and discuss Data Quality White Paper with RS</p> <p>102804, Carlos to update current status of Data Quality White Paper with RS</p> <p>012805, Carlos to update</p> <p>040105, CERTS completed Data Quality Final Report. Carlos to send to TV.</p> <p>050505, Carlos presented the Data Quality Final Report and the recommendations to improve the transmittal, monitoring, and alarming of data transmittal of ACE-Freq data. NERC-CERTS have the majority of tasks and may request assistance from the RS.</p> <p>072805 NERC and CERTS will hold a joint meeting to discuss data quality concerns and set up a plan to address the issues and concerns.</p>		
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; 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</p>	100105	

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		<p>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>050505, Joe Emde Status Report: The CERTS tool was missing almost 700 MWs of ACE at the time of the last RS meeting. As of today, it's missing a little over 100 MWs. I'm not exactly sure of the numbers but Carlos can probably give you them.</p> <p>There are currently about 8 CAs that are consistently offline.</p> <p>BREC, CWLD, DEVI, LAFA, IP, SC &amp; UPPC work intermittently but are down more often than not. I'm not sure how to fix them.</p> <p>SEPA does not submit its data via ICCP so it's not possible to insert them into the tool.</p> <p>Note: BREC – Big River Elect Corp (ECAR), DEVI (?), LAFA – Lafayette Utility System (SPP), IP – Illinois Power (MAIN), SC (?), UPPC – Upper Peninsula Power Co. (Main)</p> <p>050505, NERC and CERTS are continuing to investigate data quality problems with the ACE – Frequency displays.</p> <p>072805, NERC and CERTS will hold a joint meeting to discuss data quality concerns and set up a plan to address the issues and concerns.</p>		
Carlos Martinez	AIE Project (Project 2000-4)	<p>050505, Carlos to send AIE Project specifications, approvals, background information to Brian Nolan, NERC Projects Manager. This information and documentation is necessary for the project paper trail.</p> <p>072805, Carlos to prepare software and a "form" to accept AIE data instead of receiving the data via transmittal to Carl or to the RS.</p>	090105	
Carlos Martinez	CPS1 & CPS2 Displays (Project 2001-38)	<p>050505, Carlos to send CPS1 and CPS2 Project specifications, approvals, background information to Brian Nolan, NERC Projects Manager. This information and documentation is necessary for the project paper trail.</p>	100105	

Action Figure	Subject	Action Item/Assignment	Due Date	Completion Date
		072805, CERTS is working on revising the project to display CPS1 and BAAL data. In progress.		
Carlos Martinez and Terry Bilke	EIPP Freq Analysis Project Tools	<p>050505, Terry Bilke made a motion for the Resources Subcommittee to develop tools and methodologies for analysis of Eastern Interconnection frequency data supplied from EIPP and based on Phasor measurement technology. These methods and tools will be designed to be compatible with the other Interconnections. The motion passed.</p> <p>072805, Terry and Carlos update the RS each meeting on the progress of the EIPP. The RS proposed interconnection frequency analysis will use the EIPP frequency data as the EI source. When this effort is complete, it may be cloned for the WECC and ERCOT interconnections and HQ.</p>	100105	