

## Meeting Summary ACE Diversity Interchange Task Force

January 28–29, 2010  
Tucson Electric Company Office  
Tucson, AZ

The initial face-to-face meeting of the North American Electric Reliability Corporation (NERC) Resources Subcommittee (RS) sponsored ACE Diversity Interchange Task Force (ADITF) was held on January 28–29, 2010 at the Tucson Electric Company Office in Tucson, Arizona.

ADITF Chair Don Badley presided and a quorum was present.

### **ACE Diversity Interchange Task Force Appreciation for Meeting Host Tucson Electric Co**

The ADITF acknowledges and appreciates the hospitality that the Tucson Electric Company Organization and specifically John Tolo and Joanne Metcalfe provided to the task force as it hosted the meeting at their facility.

### **Antitrust Compliance Guidelines**

Secretary Vandervort acknowledged the NERC Antitrust Compliance Guidelines.

### **ADITF Objectives and Goals**

ADITF Chair Don Badley stated that the objectives and goals of the ADITF are to generate a white paper on ACE Diversity Interchange practices, including recommendations and conclusions. The ADI white paper will be presented to the Resources Subcommittee, Interchange Subcommittee, and the Operating Reliability Subcommittee for concurrence. When concurrence is attained by the three subcommittees, the white paper will be presented to the NERC Operating Committee.

### **Balancing Authority Controls Standard Drafting Team Parallel Efforts on ADI**

Larry Akens, Chair of the Balancing Authority Controls Standard Drafting Team (BACSDDT) stated that members of the BACSDDT along with Howard Gugel, NERC Standards Development Coordinator are also working on the ADI concerns. Bonneville Power Administration had submitted a request for interpretation of BAL-001-0.1a and BAL-002-0 regarding specific references to the use of ADI. The BACSDDT and Mr. Gugel, were assigned to coordinate the response to the RFI and developed an

interpretation to be balloted by the industry ballot pool. The interpretation was balloted and received more than one negative vote and numerous comments. The BACSDT team will meet in February, 2010 to develop responses to the comments received and enhance the interpretation based on appropriate comments and then repost for a recirculation ballot. The BACSDT welcomes members of the ADITF to participate in the upcoming meeting to address the BPA Project 2009-25 RFI comments.

The ADI request for interpretation, the initial interpretation, ballot results, and the comments received are posted on the NERC Standards Program website. The link to the website is as follows:

[http://www.nerc.com/filez/standards/Project2009-25\\_BAL-001-1\\_BAL-002-0\\_RFI\\_BPA.html](http://www.nerc.com/filez/standards/Project2009-25_BAL-001-1_BAL-002-0_RFI_BPA.html)

### **ADITF Questions to Consider Regarding ADI**

Chair Badley asked the ADITF to consider various ADI parameters and the impact/affect on neighboring balancing authorities, the respective regions, and the respective interconnection. Initial questions that the ADITF considered are below. Some of the questions attained ADITF consensus, others still need future discussion.

#### *1. Means of Interchange Documentation*

Is ADI defined as Supplemental Regulation?

Is ADI defined as a Pseudo-Tie?

Is ADI defined as a Dynamic Schedule?

The general consensus of the ADITF is that interchange associated with ADI should be handled as a pseudo-tie quantity but not be entered into after-the-fact accounting.

NERC Glossary of Terms definition of Pseudo-Tie – A telemetered reading or value that is updated in real-time and used as a “virtual” tie line flow in the AGC/ACE equation but for which no physical tie or energy metering actually exists. The integrated value is used as a metered MWh value for interchange accounting purposes.

Tony Nguyn pointed out that this Pseudo-Tie definition may change.

#### *2. Transmission Usage*

##### *a. Flows*

What ADI flow impact is there on non-participating balancing authorities?

##### *b. Modeling*

Is the ADI impact large enough to be considered and quantified for modeling?

##### *c. Tagging*

Is it necessary to tag Interchange associated with ADI

d. Intermediary Agreements

Should agreements be made between ADI participating and intermediary (non-participating) BAs to assure transmission impacts due to ADI are acceptable?

e. MW Limits

Should maximum MW limits be set for each ADI group? If so, who should set the limits?

The general consensus of the ADITF is that agreements between ADI participants and intermediary BAs should exist. In addition, maximum MW limits should exist but the ADITF did not come to consensus as to who should set the limits and what mechanism should be used to determine the limits.

3. *L<sub>10</sub>*

Does ADI expand the intent of L<sub>10</sub>?

This ADITF did not come to consensus on this question.

4. *CPS Performance*

Although ADI does not affect CPS1 performance, is the adjusted affect on CPS2 correct? The CPS2 scoring is improved under ADI, but is this appropriate?

The general consensus of the ADITF is that the improved CPS2 score is correct and appropriate.

5. *DCS Performance*

What is the impact of ADI on DCS performance? Does ADI activity distort DCS performance? Should ADI be suspended during DCS events?

The ADITF discussed these questions, but no consensus was reached.

As mentioned above, future discussions will be necessary for the ADITF to answer the above ADI-related questions and concerns.

### **Reliability Issues Related to Supplemental Regulation**

Mike Potishnak gave an ADI presentation. Mr. Potishnak made the following points related to ADI:

- The results of ADI should be frequency neutral. This means that real-time monitoring and continuous coordination is necessary.
- Pseudo Ties do not show up in Inadvertent

- To the extent practical, ADI assignments must be a zero sum game throughout the process
- Participants must continuously assure that their operation is not adversely affecting transmission of any member of its interconnection

### **Current ADI in Practice**

Mike Potishnak of ISO-NE, indicated that the ADI program has a 50 MW maximum limitation.

Shari Brown, SPP, indicated that SPP has not yet implemented its ADI program.

Tony Nguyn, British Columbia Transmission Company (BCTC), indicated that WECC ADI program is hosted by BCTC. There are 17 BAs who have indicated a desire to participate in the ADI scheme. The 17 BAs operate as one bubble until a DCS event occurs in the NWPP, in which case the ADI participants are automatically divided into a northern group and a southern group. Once this occurs, ADI operations in the group in which the DCS event occurred, are suspended until the event is over. The WECC ADI program has a 30 MW maximum limitation.

### **RC Involvement – RC Oversight**

The ADITF discussed the involvement of the reliability coordinators regarding ADI. The general consensus by the ADITF was that a control entity such as the RCs should monitor the ADI activity to assure that ADI operations can easily be suspended whenever BAs (ADI participating and non-participating BAs) are adversely impacted by ADI.

### **Definition of ADI**

Mike Potishnak proposed an ADI definition. After discussion and enhancement of the definition, the ADITF came to a consensus on the following ADI definition:

#### *ACE Diversity Interchange*

ACE Diversity Interchange (ADI) is a form of supplemental regulation that uses real-time, sub-minute adjustments to the initial ACE values of participating Balancing Authorities that always net to zero and become non-zero individually when at least one participating Balancing Authority's initial ACE value differs in algebraic sign from at least one other participating Balancing Authority's ACE. Participating Balancing Authorities achieve reductions in their control and reporting ACE values via dynamic transfers of the ACE corrections computed by ACE Diversity Interchange algorithm.

### **ACE Diversity Interchange (ADI) Concepts**

In the attempt to define ADI, the ADITF conceptualized some of the ADI parameters as a starting point for the future white paper. The initial concepts are as follows:

- To mitigate adverse transmission impacts a central oversight body, such as the RC, should be part of the implementation and monitoring
- ADI requires real-time monitoring and continuous coordination

- ADI must be frequency neutral
- ADI limits need to be set – but by who?
- ADI should be implemented using the Pseudo-Tie concept but the Pseudo-Tie quantity should not be used in after-the-fact accounting
- ADI should utilize a centralized accounting system showing real-time and after-the-fact balances for each group participating in an ADI scheme in order to track, trend, summarize, and retrieve ADI data
- ADI parties should be in a contiguous group – it currently is set up that way in NPCC, WECC, and SPP, but does it need to be?

**ADITF Next Steps**

To accomplish the ADITF Objectives and Goals, and to satisfy the ADITF Scope, the ADITF will:

1. The ADITF will write a white paper, with conclusions and recommendations
2. ADITF will present the white paper to the subcommittees (RS, ORS, IS) for review and consensus
3. After the subcommittees agreement on the final white paper, the ADITF will present the white paper to the NERC OC
4. ADITF may generate SARs, if deemed necessary/needed /for reliability/etc.

**Dates and Locations of Future Meetings**

ADITF Meeting Thursday, April 29, 2010 Friday, April 30, 2010	8 a.m.–5 p.m. 8 a.m.– 12 p.m.	Location: St. Louis (tentative) Host: Ameren Office Gerry Beckerle, point of contact
Future meetings or conference calls		To be scheduled as determined by the ADITF

Respectfully submitted,

*Tom Vandervort*

Thomas J. Vandervort  
 ACE Diversity Interchange Task Force Secretary

ACE Diversity Task Force Meeting  
Tucson Electric Co. Office  
Tucson, Arizona

Attendance List:

<u>Name</u>	<u>Participation</u>
Don Badley, ADITF Chair	Present
Bill Herbsleb	Present
James Murphy	Present
John Tolo	Present
Mike Potishnak	Present
Shari Brown	Present
Tom Vandervort	Present
Tony Nguyen	Present
David Lemmons	Present
Bob Cummings	Present
Phil Tatro	Present
Carlos Martinez	Present
Bob Staton	Present
Jim Castle	via Telephone
Doug Hils	via Telephone
Don Lacen	via Telephone