



## North American Energy Standards Board

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**TO:** NAESB Wholesale Electric Quadrant Inadvertent Interchange Payback Task Force, Posting for Interested Industry Participants  
**FROM:** Todd Oncken, NAESB Deputy Director  
**RE:** Final Minutes from the NAESB Wholesale Electric Quadrant Inadvertent Interchange Payback Task Force Conference Call – September 15 & 16, 2003  
**DATE:** October 1, 2003

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**Wholesale Electric Quadrant  
Inadvertent Interchange Payback Task Force  
September 15, 2003  
(1:00 p.m. – 4:00 p.m. Central)**

**1. Welcome**

Mr. Terelmes called the meeting to order. Mr. Oncken gave the antitrust advice. Participants introduced themselves. Mr. Terelmes reviewed the agenda. The agenda was adopted by consent.

**2. Warren McReynolds Presentation**

Mr. McReynolds gave two presentations: *WECC Workshop – Auto Time Error Correction* and *WECC Auto Time Error Progress Report*. Both presentations were posted to the NAESB web site as workpapers for this meeting. Mr. McReynolds explained the *WECC Workshop* presentation was used for a two day workshop prior to the start of time error control in the Western Interconnection. The *WECC Workshop* presentation was very technical and included several calculations based on available information. Mr. McReynolds explained the idea was to determine what actions were taken by entities that affected the system and provide a means for each entity to correct those actions. He noted financial settlement was considered, but participants found potential accounting difficulties problematic.

Participants discussed the elements of the *WECC Workshop* presentation. Mr. Goins asked a question to clarify that in instances when a generator was called to provide additional power to compensate for another entity not maintaining schedule and did not provide the required amount according to the ACE equation, the party would be charged the remainder amount to their inadvertent account. Mr. Vandervort asked if the WECC worked under a variance to NERC Policy 1f so that the payback did not have to happen peak/off-peak. Mr. McReynolds responded the implementation of the method proved that payback according to peak/off-peak was important in maintaining the balance of each account.

Mr. McReynolds reviewed the *WECC Auto Time Error Progress Report*, stating it contained the lessons learned during implementation. He noted that while almost every control area calculates inadvertent interchange differently, the results are consistent across control areas. He said one lesson was that the time error control mechanism worked properly only when all control areas participated, because if some control areas are facing difficulty reducing their primary inadvertent interchange balance, the other control areas' secondary balances are impacted. It was noted the inadvertent interchange under the WECC method does not include ramping. Mr. McReynolds stated the implementation of their project was very intensive and required a lot of training. He suggested any solutions NAESB may create will take a lot of personal attention to get people on board and help them understand the proposal.

Mr. Terelmes thanked Mr. Reynolds for his presentation. Mr. Terelmes commented that Mr. McReynolds presentation related to measurement of inadvertent interchange and noted that it has been decided that measurement of inadvertent interchange was beyond the scope of the



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IIPTF. Mr. Terelmes reminded participants that the IIPTF was tasked with valuing inadvertent interchanges, primarily on a financial basis. However, he stated the IIPTF recognizes the technical limitations of any proposal, and any proposed standard should note that limitation. He noted the IIPTF is currently looking at three factors for the valuation -- raw data of inadvertent interchange, raw data of frequency deviation, and financial value of energy at that time (LMP, value listed in a Schedule 4 tariff, or elsewhere).

Participants discussed the implications of Mr. McReynolds presentation. Mr. Fidrych suggested that if all entities were to implement the system Mr. McReynolds described, and a consequence of that focus on the minimization of time error was that inadvertent interchange approached zero, a mandatory reliability standard could solve the inadvertent interchange payback issue. Mr. Goss agreed with Mr. Fidrych's assessment. Mr. Terelmes disagreed because any inadvertent interchange has the potential to make a large value difference. Mr. Terelmes stated financial settlement could be the mechanism to bring inadvertent interchange to zero.

Mr. Vandervort stated that Mr. McReynolds's presentation gives credibility to the possibility of payback in kind. Mr. Terelmes agreed there was value to physical payback. However, he said the major disadvantage to physical payback was the valuation of the energy at the time of the inadvertent interchange as opposed to the value of the energy at the time payback occurs. Mr. Lively agreed with Mr. Terelmes's comment. Mr. Illian stated another problem with physical payback when differentiation between intentional and unintentional acts is impossible is the opportunity to game the market in times of high price volatility. Mr. Goins disagreed. He stated valuing the inadvertent interchange instead of physical payback could provide an opportunity for gaming and leaning on the system. As an alternate viewpoint, Mr. Terelmes stated that if some energy is taken there should be compensation.

Mr. Goss read the standards request and noted the charge of the task force was not to develop a financial payback method. Mr. Terelmes stated the charge is to develop a better system than physical payment (the current method). He said he supports financial settlement because he sees it as a potential solution. He noted the IIPTF is dismissing methods that are not currently technologically feasible. He stated real-time physical payback would be a great solution, but it is not technologically feasible. Mr. Goss noted that any standard developed by NAESB must have industry support. He encouraged the task force to remember that the resulting standard must be crafted to achieve that agreement. He noted several industry participants are unhappy the task force is discounting physical payback.

Mr. Green commented that his understanding what that the task force was to develop a mechanism for financial settlement. However, he expressed concern with the comments that suggest that some parties are fundamentally opposed to a financial settlement. Participants discussed their reasons for not supporting financial settlement. The following concerns were noted: 1) measurement of the inadvertent interchange; 2) pricing appears to be a huge stumbling block; and 3) limiting settlement to only financial settlement. Additionally, Mr. Goss provided the following example:

A small control area has inadvertent interchange with four neighbors totaling 1 mw. Settling bilaterally with neighbors would produce four transactions to settle the 1 mw of inadvertent interchange. That is a lot of paperwork to settle 1 mw.

Mr. Oberski stated it was time the IIPTF took action to draft standards language. He suggested the task force begin eliminating options, taking votes, developing strawmen, and taking any other actions necessary to draft a standard. He noted the WEQ is looking to the task force to develop the first technical standard to support the market. He suggested the



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IIPTF focus on the financial method and if the financial method reveals other issues that need to be addressed for implementation, then those issues could be dealt with at that time. Mr. Terelmes concurred that the task force is proceeding to define standards that would support financial settlement. To gain consensus on the direction that is being taken, he suggested a vote be taken stating the direction of the subcommittee -- standards that would support a financial settlement of inadvertent interchange. It was noted it would be appropriate for the chairs of the task force to propose a motion, but in that case the presiding chair should not participate in the discussion of the motion.

It was noted that Mr. Blohm's presentation on a frequency component to the financial value calculation was deferred until the September 16 meeting. Mr. Blohm stressed the importance of this component, stating that the nature of inadvertent interchange energy provided in response to a frequency deviation was much more costly than plain energy. Mr. Terelmes concurred on the potential value of the frequency component.

### 3. Robert Blohm Presentation

This item was deferred until the September 16 meeting.

### 4. Recess

The meeting recessed at 4:00 p.m. Central.

## Wholesale Electric Quadrant Inadvertent Interchange Payback Task Force September 16, 2003 (9:00 a.m. – noon Central)

### 1. Welcome

Mr. Terelmes called the meeting to order and Mr. Oncken gave the antitrust advice. Participants introduced themselves.

The July 23, 2003 draft minutes were discussed. The July 23 minutes were adopted absent objection without modification. The August 6, 2003 draft minutes, as redlined by Mr. Blohm, were discussed. Mr. Lively stated the minutes should reflect his rebuttal of Mr. Blohm's statements. The redlined August 6 minutes, as modified during the meeting, were adopted absent objection. Approval of the August 20, 2003 minutes was deferred until the October 6, 2003 meeting.

Mr. Terelmes stated Mr. Blohm's presentation, deferred from the September 15, 2003 agenda, would be the first order of business today. It was noted Mr. Blohm gave a similar presentation on a frequency component (adder) at the July IIPTF meeting held in Colorado Springs, CO.

### 2. Robert Blohm Presentation

Mr. Blohm gave his presentation *A CPS-1 Driven Market for the Frequency Control Contribution of Inadvertent Interchange*. Mr. Blohm reviewed each of his slides. A copy of Mr. Blohm's presentation is available on the NAESB web site as a work paper for this meeting. Mr. Blohm's presentation contains several calculations and many detailed graphs.

Mr. Blohm stated time error and frequency error have increased since 2000, and those increases, although within NERC CPS-1, should be addressed. It was noted the increased error was partly caused by ramping. Mr. Blohm stated frequency response is composed of two parts: 1) primary response – a shared responsibility which stabilizes frequency; and 2)



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secondary response – an individual responsibility of the Balancing Authority (BA) that caused the disturbance which restores frequency. Mr. Blohm stated both the primary and secondary response should be considered when discussing inadvertent interchange. It was noted NERC can measure the primary response through the CPS equation.

Mr. Blohm noted there is a difference between energy only economics and reliability enhanced economics. Mr. Blohm stated there is value to the response to the frequency deviation that is not captured by the energy cost alone. Mr. Blohm asserted that without those elements being priced, organizations could not practice adequate risk management.

Participants discussed whether Control Areas (CA) had adequate knowledge to understand the frequency of the system when purchases were made. Mr. Blohm stated that information is not currently available on a real-time basis. However, Mr. Illian stated if the CA was following its ACE equation it would be responding appropriately. Mr. Illian explained that the ACE equation is based on frequency and bias, so if a CA stays on schedule and within bias they would be on target.

Participants discussed the implications of different entities paying for the energy and frequency. Mr. Oberski noted some organizations are split along function – generation and transmission (CA). Mr. Oberski stated this proposal is understandable when the buyer and seller are the same entity that control the ACE equation. Mr. Illian responded that there is likely an existing underlying agreement between the functions for the generation function to provide reserves and frequency response for the transmission function. It was noted this complexity is not a result of the frequency adder proposal, but instead was created through separating the utilities.

Mr. Blohm continued with his presentation. He proposed that frequency and inadvertent interchange could be reflected in a two dimensional model and that model would produce a two dimensional average over a defined period of time. Mr. Blohm reviewed the series of scatter diagrams. Mr. Terelmes noted the individual scatter diagrams appear to have a normal distribution and questioned how the distribution could be verified, and asked about the effect of a different distribution in the model of frequency and inadvertent interchange. During discussion, it was revealed that the data used in the proposal was hypothetical rather than from actual observations. Mr. Illian stated with real data the diagrams would have a different shape and thereby would not be considered a normal distribution. However, he said that any real change in the slope of the lines was when there was a disturbance. Mr. Illian stated he did a simulation based on western interconnection data for previous work of the NERC JIITF and would request approval to make the results of that simulation public.

A key aspect of Mr. Blohm's proposal was pricing frequency on a monthly average, not as a point in time. Mr. Blohm stated that ideally the frequency adder would be priced through a market similar to that of pollution credits. It was noted there are significant difference between frequency and pollution credits. Mr. Blohm said that since the market does not exist, an artificial pricing mechanism should be developed to value the frequency.

Mr. Terelmes highlighted the following items for further discussion on the frequency adder proposal:

- Subjecting the frequency adder model to actual data rather than hypothetical data. Mr. Terelmes volunteered to contact NERC to ascertain the availability of that information. It was noted this would be required before a vote on the proposal.
- Additional explanation on the interval that frequency bias is being measured under the model. It currently appears to be measured as a monthly average. A question



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arose whether a monthly average would promote the proper market incentives. Mr. Illian and Mr. Blohm volunteered to address this issue.

- Additional information on the variable 'k' contained in the formula, such as its value, derivation, fluctuation and the ramifications on pricing if fluctuation occurs. Mr. Illian and Mr. Blohm volunteered to address this issue.

Mr. Terelmes opened discussion on whether the IIPTF would accept new presentations. Mr. Terelmes noted the IIPTF has been meeting for several months and stated it would be appropriate to move from discovery into standards drafting. Mr. Terelmes moved, seconded by Mr. Oberski, that since the IIPTF has completed its discovery, in future meetings the IIPTF will focus discussions on current and previous presentations and discussions, but will not include or allow any new presentations. Mr. Lively opposed excluding new presentations. Mr. Illian proposed, as a hostile amendment to the motion, that the three chairs of the IIPTF could agree to allow new presentations. Mr. Illian's amendment failed due to lack of a second. Mr. Oberski agreed that the motion is very limiting and also favored a mechanism to allow new presentations on a limited basis. Mr. Terelmes withdrew the motion.

Mr. Cox moved, seconded by Mr. Goins, as follows: The IIPTF recognizes the discovery phase is largely complete and will begin the drafting phase. Any new discovery material must be approved by this task force through a formal motion. After limited discussion the motion passed with Mr. Illian, Mr. Blohm and Mr. Lively abstaining.

### **3. Discussion of Standards Online**

This item was not discussed.

### **4. Deadlines and goals for sectional rough drafts**

This item was not discussed.

### **5. Calendar of Meetings**

This item was not discussed.

### **6. Discussion of Settlement Counterparty**

This item was not discussed.

### **7. Pricing (non OATT market participants)**

This item was not discussed.

### **8. Adjourn**

The meeting adjourned at noon Central.



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### Attendees:

Name	Company	Day One	Day Two
Terry Bilke	Midwest ISO	Phone	Phone
William Black	Not Provided	Phone	
Robert Blohm	Economist	In Person	In Person
Kim Clark	WAPA	Phone	Phone
Keith Comeaux	Cleco Power	Phone	Phone
Phil Cox	AEP	In Person	In Person
Ed Davis	Entergy	Phone	
Mark Fidrych	WAPA	In Person	
Larry Goins	Tennessee Valley Authority	Phone	Phone
Bob Goss	Southeastern Power Admin	Phone	Phone
Barry Green	Ontario Power Generation	Phone	
Howard Illian	EnergyMark	Phone	Phone
Mark Lively	Utility Economic Engineers	In Person	In Person
Greg Locke	Electricities of North Carolina	Phone	Phone
Warren McReynolds	Bonneville Power Administration	In Person	
Lou Oberski	Dominion	In Person	In Person
Todd Oncken	NAESB Deputy Director	In Person	In Person
Steve Terelmes	Ameren	In Person	In Person
Thomas Vandervort	NERC	Phone	