NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments

Project Name: 2010-14.2.2 Phase 2 of BARC | BAL-004-0 SAR

Comment Period Start Date: 3/17/2015

Comment Period End Date: 4/16/2015

The Industry Segments are:

1 — Transmission Owners
2 — RTOs, ISOs
3 — Load-serving Entities
4 — Transmission-dependent Utilities
5 — Electric Generators
6 — Electricity Brokers, Aggregators, and Marketers
7 — Large Electricity End Users
8 — Small Electricity End Users
9 — Federal, State, Provincial Regulatory or other Government Entities
10 — Regional Reliability Organizations, Regional Entities

Group Information

Full Name	Entity Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Region	Group Member Segment(s)
Ben Engelby	ACES Power Marketing	6		ACES Standards Collaborators - BARC Project	John Shaver	Arizona Electric Power Cooperative, Inc. Southwest Transmission Cooperative, Inc.	WECC	1,4,5
					Shari Heino	Brazos Electric Power Cooperative, Inc.	TRE	1,5
					Mike Brytowski	Great River Energy	MRO	1,3,5,6
					Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	3,5
					Bill Hutchison	Southern Illinois Power Cooperative	SERC	1,5
					Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
					Bob Solomon	Hoosier Energy Rural Electric	RFC	1

Full Name	Entity Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Region	Group Member Segment(s)
						Cooperative, Inc.		
Randi Heise	Dominion - Dominion Resources, Inc.	5		Dominion - RCS	Larry Nash	Dominion Virginia Power	SERC	1
					Louis Slade	Dominion Resources, Inc.	SERC	6
					Connie Lowe	Dominion Resources, Inc.	RFC	3
					Randi Heise	Dominion Resources, Inc,	NPCC	5
Albert DiCaprio	PJM Interconnection, L.L.C.	2	RFC	ISO Standards Review Committee	Charles Yeung	SPP	SPP	2
					Ben Li	IESO	NPCC	2
					Mark Holman	PJM	RFC	2
					Mark Holman	PJM	RFC	2
					Kathleen Goodman	ISONE	NPCC	2
					Greg Campoli	NYISO	NPCC	2
					Christina V. Bigelow	ERCOT	TRE	2
					Ali Miremadi	CAISO	WECC	2
Michael Lowman	Duke Energy	1,3,5,6	FRCC,SERC, RFC	Mike Lowman on Behalf of Duke Energy	Doug Hils	Duke Energy	RFC	1
					Lee Schuster	Duke Energy	FRCC	3
					Dale Goodwine	Duke Energy	SERC	5
					Greg Cecil	Duke Energy	RFC	6

Full Name	Entity Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Region	Group Member Segment(s)
Emily Rousseau	MRO	1,2,3,4,5,6	MRO	MRO-NERC Standards Review Forum (NSRF)	Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
					Amy Casucelli	Xcel Energy	MRO	1,3,5,6
					Chuck Lawrence	American Transmission Company	MRO	1
					Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
					Dan Inman	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
					Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
					Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
					Jodi Jenson	Western Area Power Administration	MRO	1,6
					Larry Heckert	Alliant Energy	MRO	4
					Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
					Marie Knox	Midwest ISO Inc.	MRO	2

Full Name	Entity Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Region	Group Member Segment(s)
					Mike Brytowski	Great River Energy	MRO	1,3,5,6
					Randi Nyholm	Minnesota Power	MRO	1,5
					Scott Nickels	Rochester Public Utilities	MRO	4
					Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
					Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
					Tony Eddleman	Nebraska Public Power District	MRO	1,3,5
Lee Pedowicz	Northeast Power Coordinating Council	10	NPCC	NPCC RSC 2010-14.2.2	Alan Adamson	New York State Reliability Council, LLC	NPCC	10
					David Burke	Orange and Rockland Utilities Inc.	NPCC	3
					Greg Campoli	New York Independent System Operator	NPCC	2

Full Name	Entity Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Region	Group Member Segment(s)
					Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
					Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
					Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
					Kathleen Goodman	ISO - New England	NPCC	2
					Mark Kenny	Northeast Utilities	NPCC	1
					Helen Lainis	Independent Electricity System Operator	NPCC	2
					Alan MacNaughton	New Brunswick Power Corporation	NPCC	9
					Paul Malozewski	Hydro One Networks Inc.	NPCC	1
					Bruce Metruck	New York Power Authority	NPCC	6

Full Name	Entity Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Region	Group Member Segment(s)
					Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
					Robert Pellegrini	The United Illuminating Company	NPCC	1
					Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
					David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
					Brian Robinson	Utility Services	NPCC	8
					Wayne Sipperly	New York Power Authority	NPCC	5
					Ben Wu	Orange and Rockland Utilities Inc.	NPCC	1
					Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
					Michael Jones	National Grid	NPCC	1
					Brian Shanahan	National Grid	NPCC	1

Full Name	Entity Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Region	Group Member Segment(s)
					Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
					Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Brent Ingebrigtson	LG&E and KU Energy, LLC	1,3,5,6	MRO,WECC, NPCC,SERC, SPP,RFC	PPL NERC Registered Affiliates	Brent Ingebrigtson	LG&E and KU Energy, LLC	SERC	1,3,5,6
					Brenda Truhe	PPL Electric Utilities Corporation	RFC	1
					Charlie Freibert	LG&E and KU energy, LLC	SERC	3
					Elizabeth Davis	PPL Energy Plus, LLC	RFC	6
					Elizabeht Davis	PPL Energy Plus, LLC	MRO	6
					Elizabeth Davis	PPL Energy Plus, LLC	WECC	6
					Elizabeth Davis	PPL EnergyPlus, LLC	NPCC	6
					Elizabeth Davis	PPL EnergyPlus, LLC	SERC	6

Full Name	Entity Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Region	Group Member Segment(s)
					Elizabeth Davis	PPL EnergyPlus, LLC	SPP	6
					Aine Hasham-Lawrence	PPL Generation, LLC	RFC	5
					Aine Hasham-Lawrence	PPL Susquehanna, LLV	RFC	5
					Aine Hasham Lawrence	PPL Montana, LLC	WECC	6
Marsha Morgan	Southern Company - Southern Company Services, Inc.	1,3,5,6	SERC	Southern Company	Robert Schaffeld	Southern Company Services, Inc	SERC	1
					John Ciza	Southern Company Generation and Energy Marketing	SERC	6
					R Scott Moore	Alabama Power Company	SERC	3
					William Shultz	Southern Company Generation	SERC	5

Full Name	Entity Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Region	Group Member Segment(s)
Jason Smith	Southwest Power Pool, Inc. (RTO)	2	SPP	SPP Standards Review Group	Darryl Boggess	Western Farmers Electric Cooperative	SPP	1,5
					Shannon Mickens	Southwest Power Pool	SPP	2
					James Nail	City of Independence, Missouri	SPP	3,5
					Carl Stelly	Southwest Power Pool	SPP	2

1. Do you agree that BAL-004-0 – Time Error Correction should be retired and that the practice of manual Time Error Correction should be eliminated? If not, please explain.

Dan Roethemeyer - Dynegy Inc. - 5 -

Selected Answer: Yes

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Selected Answer: Yes

Answer Comment:

Action should be taken to meet with NERC and FERC representatives to determine need for a commercial or other alrernative standard.

So long as manual Time Error Correction continues under NAESB WEQ-006 or a similar business practice, Order 693 and the NOPR in Docket RM09-13 requires that a standard be in place to ensure that manual time error corrections be performed in a manner that does not adversely affect the Bulk Electric System. The SDT is recommending, based on the technical analysis performed by the Periodic Review Team, that BAL-004-0 be retired as it does not contribute to reliability of the BES and in fact manual time error correction

may be detrimental to the reliability of the Interconnection. It is characterized as contributing somewhat towards unreliable impacts such as moving system frequency closer to an unstable point including Under Frequency Load Shedding trip points as stated in the white paper. The SDT is coordinating with NAESB to have WEQ-006 retired concurrently with the retirement of BAL-004-0.

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Dennis Minton - Florida Keys Electric Cooperative Assoc. - 1 -

Selected Answer: Yes

Kaleb Brimhall - Colorado Springs Utilities - 5 -

Selected Answer: Yes

Nick Vtyurin - Manitoba Hydro - 1,3,5,6 - MRO

Selected Answer: Yes

Albert DiCaprio - PJM Interconnection, L.L.C. - 2 - RFC

Selected Answer: Yes

Answer Comment:

The SRC supports a Project to retire BAL-004-0.

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: Yes

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Selected Answer: Yes

Terry BIlke - Midcontinent ISO, Inc. - 2 -

Selected Answer: No

Answer Comment:

While we agree that Manual Time Error Corrections (TEC) should be removed from the NERC standards, the practice of conducting TEC should continue as either a procedure in the NERC Operating Manual or affirmatively turned over to NAESB as a Business Practice Standard. The only thing that may need to be retained in a standard (and could be put in BAL—005 or BAL-006) is a requirement to set the maximum offset for TECs or unilateral Inadvertent Interchange Payback to either:

• A frequency offset of 20% of Frequency Bias Setting.

• An interchange schedule representing 20% of Frequency Bias Setting.

So long as manual Time Error Correction continues under NAESB WEQ-006 or a similar business practice, Order 693 and the NOPR in Docket RM09-13 requires that a standard be in place to ensure that manual time error corrections be performed in a manner that does not adversely affect the Bulk Electric System. The SDT is recommending, based on the technical analysis performed by the Periodic Review Team, that BAL-004-0 be retired as it does not contribute to reliability of the BES and in fact manual time error correction may be detrimental to the reliability of the Interconnection. It is characterized as contributing somewhat towards unreliable impacts such as moving system frequency closer to an unstable point including Under Frequency Load Shedding trip points as stated in the white paper. The SDT is coordinating with NAESB to have WEQ-006 retired concurrently with the retirement of BAL-004-0.

With regards to inadvertent interchange, it is stated in the White Paper "[manual] TEC and Inadvertent Interchange have been incorrectly linked, but the practices are independent. Eliminating [manual] TEC will have no impact on Inadvertent Interchange or its payback." There is currently a NERC Project 2010-14.2.1 that is addressing inadvertent interchange. In addition, NAESB business standard WEQ-007 addresses inadvertent interchange. Therefore, retirement of BAL-004-0 and WEQ-006 will not impact issues related to inadvertent interchange.

Paragraph 383 from FERC Order 693 is provided below for ease of reference.

383. Many commenters aver that the time error correction procedure belongs within the realm of NAESB and is not a reliability issue. The Commission disagrees, as BAL-004-0 is intended to ensure that time error corrections are performed in a manner that does not adversely affect the reliability of the Interconnection. The financial aspects of time error correction such as MISO's concern about the unilateral payback of interchange imbalances remain with NAESB. However, the technical details, including the means to carry out the procedure, are a reliability issue.

Rachel Coyne - Texas Reliability Entity, Inc. - 10 -

Selected Answer: Yes

Randi Heise - Dominion - Dominion Resources, Inc. - 5 -

Selected Answer: Yes

Kathleen Black - DTE Energy - 3,4,5 - RFC

Selected Answer: Yes

Answer Comment:

We agree that time error correction does not have an impact on BES reliability. No objection to eliminating time error correction and retiring BAL-004-

0.

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

ERCOT understands and agrees with the conclusion in the SAR and associated White Paper that Time Error Correction (TEC) is primarily a commercial function and, therefore, that the associated reliability standard (BAL-004) could be retired without materially impacting the reliability of the Bulk Electric System (BES). ERCOT does not, however, agree that the practice of manual TEC should be eliminated altogether and further disagrees that associated commercial business practices should be retired concurrently. Accordingly, ERCOT can support retirement of BAL-004 so long as there is an appropriate, applicable commercial standard to ensure that billing, settlements, and other aspects of wholesale markets are not adversely impacted by either the retirement of reliability standard BAL-004 or the time period needed to convert impacted BES devices to alternate time sources. Hence, ERCOT respectfully suggests that the SAR be modified to set forth an obligation for the SDT to ensure that there will not be a lapse in the provision of this commercial service.

The SDT recognizes ERCOT's concern and invites ERCOT to participate in the development of an implementation plan associated with TEC.

So long as manual Time Error Correction continues under NAESB WEQ-006 or a similar business practice, Order 693 and the NOPR in Docket RM09-13 requires that a standard be in place to ensure that manual time error corrections be performed in a manner that does not adversely affect the Bulk Electric

System. The SDT is recommending, based on the technical analysis performed by the Periodic Review Team, that BAL-004-0 be retired as it does not contribute to reliability of the BES and in fact manual time error correction may be detrimental to the reliability of the Interconnection. It is characterized as contributing somewhat towards unreliable impacts such as moving system frequency closer to an unstable point including Under Frequency Load Shedding trip points as stated in the white paper. The SDT is coordinating with NAESB to have WEQ-006 retired concurrently with the retirement of BAL-004-0.

Michael Lowman - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Selected Answer: Yes

Answer Comment:

Duke Energy agrees with the retirement of BAL-004-0 and Time Error Correction.

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Selected Answer: Yes

Answer Comment:

The Drafting Team will have to evaluate whether the terms Time Error and Time Error
Correction can be removed from the NERC Glossary, and whether any other NERC documents are
impacted.

Part of process – not removing definitions (used in ATEC)

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Selected Answer: Yes

Answer Comment:

We agree that the NERC Reliability Standard BAL-004-0 should be retired as it serves no purpose towards maintaining a reliable Bulk Electric System. In fact it

could be characterized as contributing somewhat towards unreliable impacts such as inadvertent interchange and reducing system frequency closer to an unstable point and Under Frequency Load Shedding trip points as stated in the white paper.

While we agree that some parties may feel there is a need to continue the use of Time Error Corrections in some form for certain needs, we feel that need does not rise to the level that requires a Reliability Standard. As such, BAL-004-0 should be retired. A separate means of establishing the need and process for conducting manual Time Error Corrections outside of Reliability Standards could be investigated. Perhaps there is a business practice or some other means to continue to accomplish the practice of TEC. Are there any potential impacts of discontinuing the practice of manual Time Error Corrections altogether? Can it impact timing references on equipment used to analyze performance of the BES? Prior to discontinuing the practice, a survey should be used to assess any reliability impacts.

So long as manual Time Error Correction continues under NAESB WEQ-006 or a similar business practice, Order 693 and the NOPR in Docket RM09-13 requires that a standard be in place to ensure that manual time error corrections be performed in a manner that does not adversely affect the Bulk Electric System. The SDT is recommending, based on the technical analysis performed by the Periodic Review Team, that BAL-004-0 be retired as it does not contribute to reliability of the BES and in fact manual time error correction may be detrimental to the reliability of the Interconnection. We agree that TEC can be characterized as contributing somewhat towards unreliable impacts such as moving system frequency closer to an unstable point including Under Frequency Load Shedding trip points. The SDT is coordinating with NAESB to have WEQ-006 retired concurrently with the retirement of BAL-004-0.

We agree that there may be potential impacts to industry participants that will need to be addressed during the implementation process. The SDT will be surveying the industry to gain a better understanding of these issues.

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

Selected Answer: No

Answer Comment:

While we agree that Manual Time Error Corrections (TEC) should be removed from the NERC standards, the practice of conducting TEC should continue as either a procedure in the NERC Operating Manual or affirmatively turned over to NAESB as a Business Practice Standard. The only thing that may need to be retained in a standard (and could be put in BAL—005 or BAL-006) is a requirement to set the maximum offset for TECs or unilateral Inadvertent Interchange Payback to either:

1) A frequency offset of 20% of Frequency Bias Setting.

2) An interchange schedule representing 20% of Frequency Bias Setting.

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are independent. Eliminating [manual] TEC will have no impact on Inadvertent Interchange or its payback." There is currently a NERC Project 2010-14.2.1 that is addressing inadvertent interchange. In addition, NAESB business standard WEQ-007 addresses inadvertent interchange. Therefore, retirement of BAL-004-0 and WEQ-006 will not impact issues related to inadvertent interchange.

Paragraph 383 from FERC Order 693 is provided below for ease of reference.

383. Many commenters aver that the time error correction procedure belongs within the realm of NAESB and is not a reliability issue. The Commission disagrees, as BAL-004-0 is intended to ensure that time error corrections are performed in a manner that does not adversely affect the reliability of the Interconnection. The financial aspects of time error correction such as MISO's concern about the unilateral payback of interchange imbalances remain with NAESB. However, the technical details, including the means to carry out the procedure, are a reliability issue.

Brent Ingebrigtson - LG&E and KU Energy, LLC - 1,3,5,6 - MRO,WECC,NPCC,SERC,SPP,RFC

Selected Answer: Yes

Answer Comment:

These comments are submitted on behalf of the following PPL NERC Registered Affiliates: LG&E and KU Energy, LLC; PPL Electric Utilities Corporation, PPL EnergyPlus, LLC; PPL Generation, LLC; PPL Susquehanna, LLC and PPL Montana, LLC. The PPL NERC Registered Affiliates are registered in six regions (MRO, NPCC, RFC, SERC, SPP, and WECC) for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, PSE, RP, TO, TOP, TP, and TSP.

Ben Engelby - ACES Power Marketing - 6 -

Selected Answer: Yes

Answer Comment:

We support the SAR and retirement of the BAL-004-0. However, we are concerned that a NERC whitepaper recommends retirement of the associated NAESB standard. We do not believe the NERC whitepaper should make such a recommendation. Rather, NERC should, at most, notify NAESB of its intent to retire that standard. NAESB can then take appropriate action.

So long as manual Time Error Correction continues under NAESB WEQ-006 or a similar business practice, Order 693 and the NOPR in Docket RM09-13 requires that a standard be in place to ensure that manual time error corrections be performed in a manner that does not adversely affect the Bulk Electric System. The SDT is recommending, based on the technical analysis performed by the Periodic Review Team, that BAL-004-0 be retired as it does not contribute to reliability of the BES and in fact manual time error correction may be detrimental to the reliability of the Interconnection. It is characterized as contributing somewhat towards unreliable impacts such as moving system frequency closer to an unstable point including Under Frequency Load Shedding trip points as stated in the white paper. The SDT is coordinating with NAESB to have WEQ-006 retired concurrently with the retirement of BAL-004-0.

Craig Figart - Avista - Avista Utilities - NA - Not Applicable - WECC

Selected Answer: No

Answer Comment:

YES, Manual TEC (MTEC) could be eliminated for all other interconnections, but **NO**, not yet for WECC. In the WECC, Automatic Time Error Correction (ATEC) per BAL-004-WECC-2 is used to manage Time Error automatically by holding BA's accountable for managing and paying their own, "primary", inadvertent Interchange (PII) energy accumulations back to the interconnection. So yes, assuming ATEC is accomplishing its intended goal, MTECs can be eliminated in theory for the WECC, but only after it's proven that WECC's ATEC implementation keeps Time Error to within boundary values of +/- 99.999 seconds. That's because WECC (PEAK RC) Symmetricom clocks that are used to track Time Error are only capable of measuring Time Error out to within +/- 99.999 seconds.

PWG is currently performing data analysis on this very topic. Since June 9, 2014, WECC's Time Error bandwidth was widened out from +/- 5 seconds to +/- 30 seconds, allowing the system to "breathe" more naturally. Accordingly, manual TEC events have been reduced significantly, however, we have experienced a few large Time Error swings (i.e. +20 down to -30 seconds within a month during fall 2014) due to significant payback swings of Primary Inadvertent energy by larger BA's. So I would like to see a staged elimination of MTEC in WECC, BUT ONLY triggered after most WECC BA's, particularly larger BA's, accumulated PII balances are much closer to zero. Otherwise, I'm afraid that once the larger BA's in WECC get their accumulations down to near zero, we might be sitting out in excess of +/- 99.999 seconds of time error, for example, without an ability to manually correct time back to within bounds of current clock technology. I would recommend continuing Manual TECs until

sometime after these large PII accumulations are paid back, particularly by the larger BAs, and then verify that ATEC manages Time Error to within +/- 99.999 seconds. Additionally, tighter controls needs to be considered on the maximum PII accumulation threshold down from the current window of +/-150% Peak Load/Gen in order for ATEC to more effectively automatically manage Time Error to within these +/- 99.999 second bounds. Then MTECs can be considered for elimination and ATEC can go to work targeting a Time Error of zero seconds within a +/- 99.999 second Time Error window.
The SDT recognizes AVISTA's concern and invites AVISTA to participate in the development of an implementation plan associated with TEC.

We agree that there may be potential impacts to industry participants that will need to be addressed during the implementation process. The SDT will be surveying the industry to gain a better understanding of these issues.

So long as manual Time Error Correction continues under NAESB WEQ-006 or a similar business practice, Order 693 and the NOPR in Docket RM09-13 requires that a standard be in place to ensure that manual time error corrections be performed in a manner that does not adversely affect the Bulk Electric System. The SDT is recommending, based on the technical analysis performed by the Periodic Review Team, that BAL-004-0 be retired as it does not contribute to reliability of the BES and in fact manual time error correction may be detrimental to the reliability of the Interconnection. It is characterized as contributing somewhat towards unreliable impacts such as moving system frequency closer to an unstable point including Under Frequency Load Shedding trip points as stated in the white paper. The SDT is coordinating with NAESB to have WEQ-006 retired concurrently with the retirement of BAL-004-0.

Fuchsia Davis - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer:	Yes

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -

Selected Answer:	Yes

2. Do you know of any constituents that may have concerns with the retirement of standard BAL-004-0 – Time Error Correction? If yes, please explain.

Dan Roethemeyer - Dynegy Inc. - 5 -

Selected Answer: No

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Dennis Minton - Florida Keys Electric Cooperative Assoc. - 1 -

Selected Answer: No

Kaleb Brimhall - Colorado Springs Utilities - 5 -

Selected Answer: No

Nick Vtyurin - Manitoba Hydro - 1,3,5,6 - MRO

Selected Answer: No

Albert DiCaprio - PJM Interconnection, L.L.C. - 2 - RFC

Selected Answer: No

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: No

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Selected Answer: No

Terry Bllke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Rachel Coyne - Texas Reliability Entity, Inc. - 10 -

Selected Answer: No

Randi Heise - Dominion - Dominion Resources, Inc. - 5 -

Selected Answer: No

Answer Comment:

Minor comment; neither of the links provided in the SAR work (Roster, IERP report).

Kathleen Black - DTE Energy - 3,4,5 - RFC

Selected Answer: No

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christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Importantly, the White Paper assumes the availability and usage of

alternate time sources by devices on the BES. However, this assumption may not be applicable to all stakeholders and all devices in the ERCOT Interconnection. For example, in the ERCOT Region, existing market guides have provisions for manual TEC to facilitate maintenance of meter equipment accuracy. Thus, where constituents have utilized manual TECs historically, the transition to an alternate time source may not be simple and may, in fact, be a complex, lengthy process requiring modifications to devices and associated cyber systems, data, software, and configurations. Accordingly, it is likely that constituents that currently rely on manual TEC would have significant concerns with retirement of the standard where there exists no commercial or other standard to govern the consistency of processes within and among Interconnections during the transition to alternate time sources.

The SDT recognizes ERCOT's concern and invites ERCOT to participate in the development of an implementation plan associated with TEC.

So long as manual Time Error Correction continues under NAESB WEQ-006 or a similar business practice, Order 693 and the NOPR in Docket RM09-13 requires that a standard be in place to ensure that manual time error corrections be performed in a manner that does not adversely affect the Bulk Electric System. The SDT is recommending, based on the technical analysis performed by the Periodic Review Team, that BAL-004-0 be retired as it does not contribute to reliability of the BES and in fact manual time error correction may be detrimental to the reliability of the Interconnection. It is characterized as contributing somewhat towards unreliable impacts such as moving system frequency closer to an unstable point including Under Frequency Load Shedding trip points as stated in the white paper. The SDT is coordinating with NAESB to have WEQ-006 retired concurrently with the retirement of BAL-004-0.

Michael Lowman - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Selected Answer: No

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Selected Answer: No

Answer Comment:

The links are not established in the SAR for sarcomm@nerc.com, Roster, and Independent
Expert Review Project report.

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Selected Answer:	No
Answer Comment:	There are no known concerns with retiring the Reliability Standard BAL-004-0. We are not stating here whether we support discontinuing the practice of manual TEC after retirement of the Standard.

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO

Selected Answer:	Yes
Answer Comment:	NERC went through an exercise not long ago to try to eliminate manual TECs. There was significant pushback from multiple stakeholders (commerce commissions, Federal regulators, newspapers, a congressman, markets) as it could impact facilities that rely on grid frequency as their time reference. We have heard of no call from the industry to eliminate manual TECs and it is unclear why we are spending resources to try this again. We

should find ways to do fewer TECs and make them less intrusive in the frequency profile.

The previous effort related to TEC was not to retire BAL-004-0. The SDT believes that the resources expended would be less to eliminate BAL-004-0 rather than to modify the existing standard. There is currently a NERC Project 2010-14.2.1 that is addressing inadvertent interchange. In addition, NAESB business standard WEQ-007 addresses inadvertent interchange.

Brent Ingebrigtson - LG&E and KU Energy, LLC - 1,3,5,6 - MRO,WECC,NPCC,SERC,SPP,RFC

Selected Answer: No

Answer Comment:

These comments are submitted on behalf of the following PPL NERC Registered Affiliates: LG&E and KU Energy, LLC; PPL Electric Utilities Corporation, PPL EnergyPlus, LLC; PPL Generation, LLC; PPL Susquehanna, LLC and PPL Montana, LLC. The PPL NERC Registered Affiliates are registered in six regions (MRO, NPCC, RFC, SERC, SPP, and WECC) for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, PSE, RP, TO, TOP, TP, and TSP.

Ben Engelby - ACES Power Marketing - 6 -

Selected Answer: No

Craig Figart - Avista - Avista Utilities - NA - Not Applicable - WECC

Selected Answer: No

Fuchsia Davis - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: No

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -

Selected Answer:	No

End of Report