

## Consideration of Comments

### 2010-14.2.2 Phase 2 of Balancing Authority Reliability-based Controls: Time Error Correction BAL-004-0 Survey

The Project 2010-14.2.2 Phase 2 Balancing Authority Reliability-based Controls standard drafting team would like to thank all who submitted comments on the survey concerning the disposition of BAL-004-0. The survey was posted August 12-25, 2015 for stakeholders to provide feedback through a special electronic comment form. There were 24 sets of responses, including comments from approximately 76 different people from approximately 55 companies representing 9 of the 10 Industry Segments as shown in the table on the following pages.

All comments submitted may be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Director of Standards, [Howard Gugel](#) (via email) or at (404) 446-9693. In addition, there is a NERC Reliability Standards Appeals Process.<sup>1</sup>

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<sup>1</sup> The appeals process is in the Standard Processes Manual: [http://www.nerc.com/comm/SC/Documents/Appendix\\_3A\\_StandardsProcessesManual.pdf](http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf)

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**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/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
1.	Group	Andrea Jessup	Bonneville Power Administration	X		X		X	X				
<b>Additional Member Additional Organization Region Segment Selection</b>													
1.	Curtis Holland	Dittmer Dispatch	WECC	1									
2.	Group	Guy Zito	Northeast Power Coordinating Council	X	X	X		X	X		X	X	X
<b>Additional Member Additional Organization Region Segment Selection</b>													
1.	Alan Adamson	New York State Reliability Council	NPCC	10									
2.	Edward Bedder	Orange and Rockland Utilities, Inc.	NPCC	1									
3.	David Burke	Orange and Rockland Utilities, Inc.	NPCC	3									
4.	Greg Campoli	New York Independent System Operator	NPCC	2									
5.	Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1									
6.	Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1									
7.	Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10									
8.	Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1									
9.	Kathleen Goodman	ISO - New England	NPCC	2									
10.	Michael Jones	National Grid	NPCC	1									
11.	Mark Kenny	Eversource	NPCC	1									
12.	Helen Lainis	Independent Electricity System Operator	NPCC	2									

Group/Individual	Commenter	Organization	Registered Ballot Body Segment											
			1	2	3	4	5	6	7	8	9	10		
13. Connie Lowe	Dominion Resources Services, Inc.	NPCC 5												
14. Paul Malozewski	Hydro One Networks Inc.	NPCC 1												
15. Bruce Metruck	New York Power Authority	NPCC 6												
16. Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC 8												
17. Silvia Parada Mitchell	NextEra Energy, LLC	NPCC 5												
18. Lee Pedowicz	Notheast Power Coordinating Council	NPCC 10												
19. Robert Pellegrini	The United Illuminating Company	NPCC 1												
20. Si Truc Phan	Hydro-Quebec TransEnergie	NPCC 1												
21. David Ramkalawan	Ontario Power Generation, Inc.	NPCC 5												
22. Brian Robinson	Utility Services	NPCC 8												
23. Brian Shanahan	National Grid	NPCC 1												
24. RuiDa Shu	Northeast Power Coordinating Council	NPCC 10												
25. Wayne Sipperly	New York Power Authority	NPCC 5												
26. Glen Smith	Entergy Services, Inc.	NPCC 5												
27. Rob Vance	New Brunswick Power Corporation	NPCC 9												
3.	Group	Albert DiCaprio	ISO/RTO Standards Review Committee		X									
<b>Additional Member Additional Organization Region Segment Selection</b>														
1.	Charles Yeung	SPP	SPP	2										
2.	Ben Li	IESO	NPCC	2										
3.	Kathleen Goodman	ISONE	NPCC	2										
4.	Greg Campoli	NYISO	NPCC	2										
5.	Mike Bryson	PJM	RFC	2										
6.	Terry Bilke	MISO	RFC	2										
7.	Christina Bigelow	ERCOT	ERCOT	2										
8.	Ali Miremadi	CAISO	WECC	2										
4.	Group	Jason Smith	SPP Standards Review Group		X	X	X		X					
<b>Additional Member Additional Organization Region Segment Selection</b>														
1.	Shannon Mickens	Southwest Power Pool	SPP	2										
2.	Carl Stelly	Southwest Power Pool	SPP	2										
3.	Donald Hargrove	Oklahoma Gas & Electric	SPP	1, 3, 5, 6										
5.	Group	Bob Schaffeld	Southern Company		X		X		X	X				

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
<b>Additional Member</b>		<b>Additional Organization</b>		<b>Region</b>		<b>Segment Selection</b>							
1.	Rob Watson	Choctaw Generation Limited Partnership, LLLP		SERC	5								
2.	Scott Moore	Alabama Power Company		SERC	3								
3.	Bill Shultz	Southern Company Generation		SERC	5								
4.	John Ciza	Southern Company Generation and Energy Marketing		SERC	6								
6.	Group	Brian Van Gheem	ACES Standards Collaborators		X			X		X			
<b>Additional Member</b>		<b>Additional Organization</b>		<b>Region</b>		<b>Segment Selection</b>							
1.	Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.		RFC	1								
2.	John Shaver	Arizona Electric Power Cooperative, Inc.		WECC	4, 5								
3.	John Shaver	Southwest Transmission Cooperative, Inc.		WECC	1								
4.	William Hutchison	Southern Illinois Power Cooperative		SERC	1								
5.	Ellen Watkins	Sunflower Electric Power Corporation		SPP	1								
7.	Group	Colby Bellville	Duke Energy		X		X		X	X			
<b>Additional Member</b>		<b>Additional Organization</b>		<b>Region</b>		<b>Segment Selection</b>							
1.	Doug Hils	Duke Energy		RFC	1								
2.	Lee Schuster	Duke Energy		FRCC	3								
3.	Dale Goodwine	Duke Energy		SERC	5								
4.	Greg Cecil	Duke Energy		RFC	6								
8.	Individual	Jared Shakespeare	Peak Reliability		X								
9.	Individual	Nick Vtyurin	Manitoba Hydro		X		X		X	X			
10.	Individual	Matt Smelser	Imperial Irrigation District		X		X		X			X	
11.	Individual	John Tolo	Tucson Electric Power		X								
12.	Individual	dan Roethemeyer	Dynergy		X				X				
13.	Individual	Maryclaire Yatsko	Seminole Electric Cooperative, Inc.		X		X	X	X	X			
14.	Individual	Kathleen Goodman	ISO New England Inc			X							
15.	Individual	Terry Bilke	MISO			X							
16.	Individual	Craig Figart	Avista Corp		X		X						

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
17.	Individual	Oliver Burke	Entergy Services, Inc.	X		X		X					
18.	Individual	Angela P Gaines	Portland General Electric	X		X		X	X				
19.	Individual	Joel Wise	Tennessee Valley Authority	X		X		X	X				
20.	Individual	David Kimmel	PJM Interconnection		X								
21.	Individual	Glenn Barry	LADWP	X		X		X				X	
22.	Individual	David Jendras	Ameren	X		X		X	X				
23.	Individual	LeRoy Patterson	GCPD	X			X	X					
24.	Individual	Ernesto Martinez	El Paso Electric Company	X		X							

1. Based on comments related to the SAR, the industry supports the retirement of BAL-004-0, however it is unclear whether industry supports maintaining or eliminating manual Time Error Correction (the ability to operate with a frequency offset). Based on the SDT's interpretation of FERC Order No. 693 and the NOPR in RM09-13-000, FERC has clearly stated that implementation of a manual TEC would require a standard to be in place. The SDT has posted proposed requirement concepts that they believe address the reliability issues for implementation of a manual TEC. Based on these concepts, do you support (i) maintaining the ability to implement a TEC or (ii) do you prefer eliminating the standard and the ability to implement a manual TEC?

**Summary Consideration:**

Based on the comments received the vast majority of the industry supports retirement and elimination of manual Time Error Correction (TEC). Most of the entities that want to keep TEC were supportive of retiring the standard but keeping the process of manual TEC in some form. The SDT was not supportive of this position based on the fact that the Federal Energy Regulatory Commission (“Commission” or “FERC”) has determined that manual Time Error Correction is a reliability issue, as a Reliability Standard is necessary to ensure that Time Error Corrections are performed in a manner that does not adversely affect reliability. Thus, while Time Error Corrections may not be necessary to ensure reliability, if Time Error Corrections are performed, FERC has clarified that there must be a Reliability Standard in place ensuring performance in a way that does not adversely affect reliability.

Organization	Question 1 Answer	Question 1 Comment
Entergy Services, Inc.	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	Entergy is in favor of eliminating Time Error Corrections. This practice has become outdated and inefficient as the advancements of today's technology has eliminated the need for such practices.
<b>Response:</b>		
ISO New England Inc	Eliminate the ability to implement manual TEC and	ISO-NE believes that this should no longer be a standard, and, if needed, a NAESB business practice

Organization	Question 1 Answer	Question 1 Comment
	standard BAL-004-0 Time Error Correction.	
<b>Response:</b>		
GCPD	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	Manual Time Error corrections create reliability risk by intentionally offsetting frequency (moving frequency closer to manual load shed points) to compensate for past poor frequency performance. Instead of manual time error corrections, mandate or incent suitable frequency performance at all times rather than causing intentional frequency offsets to "adjust" time error.
<b>Response:</b>		
ACES Standards Collaborators	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	Our preference is to eliminate the standard entirely, as we feel it puts an undue risk on the reliability of the BES. An Interconnection under a Fast Time Error Correction that suddenly loses a large generation resource increases the probability of a frequency excursion occurring below 59.95 Hz. We struggle to identify any reliability reasons why an entity would offset their scheduled frequency for this purpose. Previous positions that support the use of Time Error Corrections focus on maintaining the time accuracy of the remaining synchronous motor electric clocks still in use. However, we continue to find flaw with such arguments, as the corresponding NAESB Standard identified that the Interconnection Time Monitor should make a reasonable effort to initiate and terminate a corrective action order within a specific tolerance. Over the past decade, Industry has moved on to more accurate methods for keeping time instead of synchronous motor electric clocks. Moreover, Industry is often accused of not updating its facilities to 21st century standards and expectations, yet the purpose of Time Error Correction is to help a clock invented in the early 20th century stay accurate.

Organization	Question 1 Answer	Question 1 Comment
<b>Response:</b>		
Peak Reliability	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	Peak Reliability (Peak) is in favor of retiring BAL-004-0 as it is a legacy commercial service. Peak does not support keeping a process for implementing manual time error correction as a standalone standard. The existing suite of BAL Reliability Standards should keep frequency within proper bounds to create a reliable Interconnection (BAL-001 and BAL-003 in particular). Additionally, Reliability Coordinators have other mechanisms to manage frequency drift (ACE, interchange, etc.). Manual Time Error Correction is not, nor should it be, one of these mechanisms.
<b>Response:</b>		
Tennessee Valley Authority	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	TVA supports the elimination of the ability to implement manual TEC and the Reliability Standard BAL-004-0.
<b>Response:</b>		
Northeast Power Coordinating Council	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	We support the elimination of BAL-004 and its requirement to perform time error correction since time error correction is not necessary to maintain reliability. This should no longer be a standard, and if determined to be needed, should be made a NAESB business practice.
<b>Response:</b>		
Southern Company	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	

Organization	Question 1 Answer	Question 1 Comment
Duke Energy	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	
Manitoba Hydro	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	
Imperial Irrigation District	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	
Dynergy	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	
Portland General Electric	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	
LADWP	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	

Organization	Question 1 Answer	Question 1 Comment
Ameren	Eliminate the ability to implement manual TEC and standard BAL-004-0 Time Error Correction.	
Bonneville Power Administration	Maintain the ability to implement manual TEC with requirements similar to those proposed.	BPA does not find manual TEC to be a burden and unless shown to be unnecessary by studies, should be maintained.
<b>Response:</b>		
Tucson Electric Power	Maintain the ability to implement manual TEC with requirements similar to those proposed.	In agreement that BAL-004 can be eliminated but retain the ability to do a manual time error correction outside of a Reliability Standard. When implementing a manual time error correction, strive for less of a reliability impact by narrowing the frequency offset band. Make certain that there is a distinction between manual time error correction (MTEC) and automatic time error correction (ATEC) as it is a regional standard in the WECC.
<b>Response:</b>		
PJM Interconnection	Maintain the ability to implement manual TEC with requirements similar to those proposed.	R1 has some unclear language. It states that the Reliability Coordinator will issue an Operating Instruction to its Balancing Authorities that will include the time to implement the offset. Does this include the termination time of the TEC? Usually a termination time is issued later into the Time Error Correction once Time Error has been reduced to a lower value. An R3 should be written to allow Reliability Coordinators to request to terminate a manual Time Error correction that is in progress or that is scheduled to start if they have reliability considerations.

Organization	Question 1 Answer	Question 1 Comment
<b>Response:</b>		
SPP Standards Review Group	Maintain the ability to implement manual TEC with requirements similar to those proposed.	We agree that coordinated, manual frequency offsets may need to be implemented, but only for non-BES reliability purposes. The question of whether or not TEC, or manual frequency offsets, is needed is a non-electric industry question and should be directed to those entities. If those entities agree that TEC is still needed, then at minimum some coordination and oversight should remain. However, placing this obligation to coordinate activities for a non-BES reliability issue in NERC Reliability Standards is a mis-placement of the issue. An un-coordinated, manual frequency offset would only result in inadvertent interchange between Balancing Authorities which itself is not a reliability issue. Simply offsetting a BA's target, scheduled frequency will not result in direct reliability impacts. The interconnections between BAs in today's world are much stronger than they were 25-30 years ago. When TECs were originally implemented and BAs were only interconnected by minimal ties, the impact of frequency offset, and the resulting inadvertent interchange, would have been much more impactful. In today's interconnections, the ties are much stronger and BAs generally have many ties with the rest of the interconnection. The amount of inadvertent interchange between BAs due to an uncoordinated offset would result in only minimal amounts of MWs on those ties and should not be characterized as a reliability issue.
<b>Response:</b>		
MISO	Maintain the ability to implement manual TEC with requirements similar to those proposed.	We disagree with the assertion that Order No. 693 clearly states we have to follow a mandated path. NERC is allowed to point out technical deficiencies based on new information or provide equally effective alternatives. NERC standards should set a maximum allowable offset for

Organization	Question 1 Answer	Question 1 Comment
		TECs. NERC should remove some of the overhead of TECs in the standards. For example, there are procedural steps regarding TECs in the NERC Operating Manual that work quite effectively. Most of what we do today regarding TECs could be in a procedural document in the NERC Operating Manual. While giving it to NAESB might work, there would be gaps in that not all BAs are FERC jurisdictional transmission providers. Additionally there are viable and useful things NERC could do to reduce the number and impact of manual TECs and make them less error prone (full day corrections at a 0.0Hz offset with the ability to do small unilateral paybacks that help manage time).
<b>Response:</b>		
Seminole Electric Cooperative, Inc.	Maintain the ability to implement manual TEC with requirements similar to those proposed.	
Avista Corp	Maintain the ability to implement manual TEC with requirements similar to those proposed.	
El Paso Electric Company	Maintain the ability to implement manual TEC with requirements similar to those proposed.	
ISO/RTO Standards Review Committee		The ISO/RTO SRC members believe that Time Error Correction does not rise up to the level of a NERC Reliability Standard level and that BAL-004 should be retired and either be referred to NAESB for its consideration as

Organization	Question 1 Answer	Question 1 Comment
		a Business Practice or converted to a NERC reference document (e.g. Operating Guideline)
<b>Response:</b>		

2. If the industry elects to maintain the ability to implement manual TEC, do you agree that the proposed requirements address the reliability issues surrounding implementing manual Time Error Correction?

Summary Consideration:

The SDT is not providing a response to the comments received from this question since the question concerns actions that would occur if the standard were modified and the SDT is recommending that the standard be retired.

Organization	Question 2 Answer	Question 2 Comment
ACES Standards Collaborators	No	<p>(1) We have concerns that NERC and the SDT has posted an incomplete package of documents (e.g. missing implementation plan, missing VSLs in standard, etc.) for review. We understand the SDT’s intention to move this standard under the IRO set of standards. However, based on the significant depth of this survey and its request to review a proposed standard, Industry is still obligated to follow its internal standards development and commenting mechanism based on the materials provided.(2) We applaud the SDT for removing Balancing Authorities from the applicability of this standard. However, we are concerned that Requirement R1 doesn’t clearly identify one Reliability Coordinator as the Interconnection Time Error Monitor. Without having one entity identified to take the lead and responsibility for initiating a Time Error Correction, this could cause additional burden on tracking and coordination to when the initiation should occur and by whom. We recommend identifying a standard-specific definition for Interconnection Time Error Monitor that identifies a NERC Technical Committee (i.e. NERC Operating Committee) to assign these responsibilities to a specific Reliability Coordinator on a periodic basis.(3) We recommend Requirement R1 is revised to the develop-maintain-implement approach used for Geomagnetic Disturbances in Reliability Standard EOP-010-1. Reliability Coordinators already provide some guidance within their Reliability Plans on how they will communicate the</p>

Organization	Question 2 Answer	Question 2 Comment
		initiation of Time Error Corrections. Operating Procedures and Operating Processes could further support the need for additional information.(4) We question how a CEA would enforce Requirement R2, as written. An auditor could interpret that the Reliability Coordinator who issues the initiation of a Time Error Correction would also be responsibility for all other Reliability Coordinators within its Interconnection to issue the same Operating Instructions. We recommend rewording the requirement to “Each Reliability Coordinator shall communicate identical Operating Instructions for Time Error Corrections issued by other Reliability Coordinators within the same Interconnection.”
<b>Response:</b>		
Ameren	No	In addition to the proposed requirements a +/- limit on frequency offset should be set, such as +/- 0.010 Hertz.
<b>Response:</b>		
MISO	No	Only 1 RC should issue TECs. R2 isn't necessary. Additionally, you could just put a requirement in BAL-004,5 or 6 that the maximum frequency offset for an RC issued TEC is +/- 0.02 Hz.
<b>Response:</b>		
PJM Interconnection	No	The process to determine and agree on a termination time is unclear. As it is written, Reliability Coordinators do not appear to have authority to issue a manual Time Error Correction termination when the Time Error has returned to a near zero value.Any Reliability Coordinator in an Interconnection should have the authority to request the other Reliability Coordinators within its Interconnection to terminate a manual Time Error Correction in progress or

Organization	Question 2 Answer	Question 2 Comment
		cancel a scheduled manual Time Error Correction that has not begun, for reliability considerations.
<b>Response:</b>		
Entergy Services, Inc.	No	
Southern Company	Yes	It seems the requirement should be on the RCs in the interconnection, not the Interconnection RC Time Monitor (that rotates among the different RCs in the Interconnection periodically). How would the Interconnection Time Monitor RC prove compliance with this requirement? It would be easier for the 'local RC's to prove that their instructions match the one issued on the Interconnection Time Monitor. We suggest the standard be written in this manner, "Operating Instructions issued by the RCs in the same Interconnection must match the Operating Instruction issued by the Reliability Coordinator related to a manual Time Error Correction for that Interconnection".
<b>Response:</b>		
SPP Standards Review Group	Yes	There are no reliability issues associated with an uncoordinated manual Time Error Correction. Only the possibility of introducing inadvertent interchange between Balancing Authorities is introduced. While we feel there are no reliability issues, the proposed requirements are sufficient to coordinate manual frequency offsets.
<b>Response:</b>		
Bonneville Power Administration	Yes	

Organization	Question 2 Answer	Question 2 Comment
Northeast Power Coordinating Council	Yes	
Manitoba Hydro	Yes	
Imperial Irrigation District	Yes	
Tucson Electric Power	Yes	
Dynegy	Yes	
Seminole Electric Cooperative, Inc.	Yes	
Avista Corp	Yes	
LADWP	Yes	
GCPD	Yes	
El Paso Electric Company	Yes	
ISO/RTO Standards Review Committee		The ISO/RTO SRC members believe that Time Error Correction does not rise up to the level of a NERC Reliability Standard level and that BAL-004 should be retired and either be referred to NAESB for its consideration as a Business Practice or converted to a NERC reference document (e.g. Operating Guideline)
<b>Response:</b>		

3. If the industry elects to maintain the ability to implement manual TEC, the SDT recommends that these requirements be included in an IRO standard. Do you agree?

**Summary Consideration:**

The SDT is not providing a response to the comments received from this question since the question concerns actions that would occur if the standard were modified and the SDT is recommending that the standard be retired.

Organization	Question 3 Answer	Question 3 Comment
Tucson Electric Power	No	Look at other means of accomplishing manual time error corrections without having a Reliability Standard associated with that practice. Maybe look at a NAESB Business Practice or a Guideline of some sort.
<b>Response:</b>		
MISO	No	No, just because Commission Staff erred in overestimating the impact of TECs, does not mean we should propagate that misunderstanding.
<b>Response:</b>		
ISO/RTO Standards Review Committee	No	The ISO/RTO SRC members believe that Time Error Correction does not rise up to the level of a NERC Reliability Standard level and that BAL-004 should be retired and either be referred to NAESB for its consideration as a Business Practice or converted to a NERC reference document (e.g. Operating Guideline)
<b>Response:</b>		
Portland General Electric	No	There is no need to maintain Manual Time Error Correction.

Organization	Question 3 Answer	Question 3 Comment
<b>Response:</b>		
Imperial Irrigation District	No	
ACES Standards Collaborators	Yes	Although we agree with this recommendation, we caution the SDT that the IRO standards recently went through extensive revisions and any further revisions should be narrow in scope.
<b>Response:</b>		
SPP Standards Review Group	Yes	We feel that this does not belong in Reliability Standards at all. Coordinating TEC's purpose would be only to minimize the creation of inadvertent interchange. However, if it is determined that the implementation of TEC is maintained within the Standards, placing it in the IRO family of Standards would be appropriate.
<b>Response:</b>		
Bonneville Power Administration	Yes	
Northeast Power Coordinating Council	Yes	
Southern Company	Yes	
Manitoba Hydro	Yes	
Dynergy	Yes	

Organization	Question 3 Answer	Question 3 Comment
Seminole Electric Cooperative, Inc.	Yes	
Entergy Services, Inc.	Yes	
PJM Interconnection	Yes	
LADWP	Yes	
Ameren	Yes	
GCPD	Yes	
El Paso Electric Company	Yes	
Avista Corp		not sure
<b>Response:</b>		

4. If you have any other comments or reliability concerns please provide them in the space below.

**Summary Consideration:**

The majority of the comments received in this section are in support of eliminating TEC. A couple of commenters requested additional justification for eliminating TEC. The SDT has revised the white paper associated with this project to include additional information/justification for elimination of TEC.

Organization	Question 4 Comment
Portland General Electric	From a reliability of the interconnection perspective, BAL-004-0 serves no purpose. The only positive impact that it has is for clocks and timing devices that rely on the frequency of the grid to maintain an accurate time which are probably few and minimally impacted. There is no need to maintain Manual Time Error Correction (TEC). Get rid of this standard.
<b>Response:</b>	
MISO	Manual TECs have become infrequent events in the East. We could further improve control, better manage Inadvertent Interchange, and improve the frequency profile if we made a few simple changes (clock day corrections with a 0.01Hz offset, 30 second TEC window, allow unilateral payback of 5MW or 10% of bias if it assisted in managing Time Error).
<b>Response:</b>	
GCPD	Manual time error correction creates reliability issues. Inadvertent accumulations should be managed without manual time error corrections. If time error must be managed to zero over time, then automatic time error correction methods that reduce inadvertent accumulations while supporting 60 Hz frequency should be used rather than manual corrections that intentionally offset frequency.
<b>Response:</b>	

Organization	Question 4 Comment
Avista Corp	Now that WECC has widened our Time Error Correction window from +/-5 to +/-30 seconds, I would like to continue to monitor how effectively ATEC manages automatically manages Time Error and payback of Primary and Total Inadvertent Interchange energy. The number of MTECs have already been significantly reduced as a result. MTECs keep Time Error bounded within existing WECC Interconnection Time Monitor's Symmetricom clock capabilities of +/-99 seconds. Without MTECs, modifications to current Time Error calculation processes and software would have to be devised and implemented (i.e. WIT Tool software, WECC's ITM Time Error calcs, each BA's ATEC calculations, etc).
<b>Response:</b>	
Tucson Electric Power	The ability for comment and input is appreciated.
<b>Response:</b>	
ACES Standards Collaborators	We believe that NERC should build a stronger case for the removal of the Time Error Correction standard. This standard puts unnecessary maintenance costs related to software and implementation of Time Error Correction operations. It also puts a burden on Reliability Coordinators to identify the initiation and termination of Time Error Corrections as reliability-related tasks, which then are required training for System Operators, per NERC Standard PER-005-1.
<b>Response:</b>	

**END OF REPORT**