

Consideration of Comments

Project 2012-09 Five-Year Review Recommendation on the IRO Body of Standards

The Project 2012-09 IRO Five-Year Review Team thanks all who submitted comments on the reviews of the IRO body of standards. The team's recommendations for these standards were posted for a 45-day comment period from August 7, 2013 through September 20, 2013. Stakeholders were asked to provide feedback on the recommendations, redlined standards and associated documents through a special electronic comment form. There were 28 sets of responses, including comments from approximately 85 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 Vice President and Director of Standards, Mark Lauby, at 404-446-2560 or at mark.lauby@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.¹

Summary Consideration:

IRO-003-2

Based on the comments received, the IRO FYRT has revised the requirement language to "monitor Facilities to determine expected and detect actual ..." in Requirement R1. Based on discussions between the FYRT and FERC Staff during the consideration of comments, "monitor Facilities" was reinserted into the revised Requirement R1. The FYRT has revised the Requirement R2 to change "facilities" to "Facilities". In addition, the phrase "observe and assess" was revised to "know and assess". This allows for the use of non-telemetered information to achieve the reliability objective. The FYRT has also added a statement to the FYR Template for the standard drafting team to consider moving the restoration concept of revised Requirement R2 into EOP-006.

¹ The appeals process is in the Standard Processes Manual: http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf

IRO-004-2 and IRO-001

The IRO FYRT has retained our original recommendation to retire IRO-004-2 and to revise IRO-001-3 to include the Transmission Service Provider (TSP) as an applicable entity. The IRO FYRT notes that the Independent Expert Review Panel (IERP) cited IRO-004-2, Requirement R1 as being duplicative with IRO-001-1.1, Requirement R3 which included the TSP as an applicable entity, as well as Requirement R8. Since IRO-001-3 does not include the TSP, that entity should be added to the requirement. Invoking the transmission loading relief process is a reactive process to an event while an RC may discover issues day ahead that could be addressed by directing a TSP to take action to alleviate the potential reliability issue ahead of time. The FYRT believes that the TSP should be added to IRO-001-4. While the FYRT agrees that the likelihood of a TSP receiving a directive is low, the burden of compliance with the revised requirement would be minimal. In the case where the TSP receives a directive that conflicts with other regulatory requirements, this requirement (R3) provides for the TSP to not follow the directive.

The IRO FYRT has included a recommendation to revise IRO-001-4, Requirements R2 and R3 to use similar language contained in TOP-001-2, Requirements R1 and R2.

IRO-005-4

Based on stakeholder feedback, the IRO FYRT has consolidated notification requirements from IRO-005-4 into proposed IRO-008-2. Therefore, the IRO FYRT is recommending that IRO-005-4 be retired in its entirety. IRO-008-1 addresses IROLs while IRO-005-4 addresses Adverse Reliability Impacts. The FYRT believes that consolidating the notification requirements into IRO-008-1 is appropriate because of overlaps in the definitions of these two terms. An IROL is defined as “A System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Bulk Electric System.” The definition of Adverse Reliability Impact is pending FERC approval. The pending definition is: “The impact of an event that results in Bulk Electric System instability or Cascading.” These two defined terms both address instability and Cascading. The definition of IROL also includes uncontrolled separation. The IRO FYRT has elected to not retire or revise Adverse Reliability Impact because it is used in other standards and defined terms.

IRO-006-5

The IRO FYRT recommendation to affirm IRO-006-5 was supported by industry comments. The recommendation to affirm the standard will be presented to the NERC Board and filed with regulators.

IRO-006-East-1

A suggestion was made to retain Requirement R1 since it was developed to address a directive. FERC Order 693, paragraph 964 states:

964. Accordingly, in addition to approving the Reliability Standard, the Commission directs the ERO to develop a modification to IRO-006-3 through the Reliability Standards development process that (1) includes a clear warning that the TLR procedure is an inappropriate and

ineffective tool to mitigate actual IROL violations and (2) identifies in a Requirement the available alternatives to mitigate an IROL violation other than use of the TLR procedure. In developing the required modification, the ERO should consider the suggestions of MidAmerican and Xcel.

The IRO FYRT acknowledges that Requirement R1 addresses the directive. The FYRT notes that IRO-008-1 and IRO-009-1 were developed after Order 693 was issued and the particular directive was addressed. The FYRT contends that IRO-008-1, Requirement R3 and IRO-009-1, Requirement R4 are redundant with Requirement R1 and that the requirements in IRO-008-1 and IRO-009-1 are results based and specify a reliability objective to be achieved. The requirement in IRO-006-EAST-1 simply provides a list of actions to be taken without any parameters for their use. The requirements of IRO-008-1 and IRO-009-1 point to IROL exceedances and mitigating the magnitude and duration within the IROL's Tv:

IRO-008-1, Requirement R3: When a Reliability Coordinator determines that the results of an Operational Planning Analysis or Real-time Assessment indicates the need for specific operational actions to prevent or mitigate an instance of exceeding an IROL, the Reliability Coordinator shall share its results with those entities that are expected to take those actions.

IRO-009-1, Requirement R4: When actual system conditions show that there is an instance of exceeding an IROL in its Reliability Coordinator Area, the Reliability Coordinator shall, without delay, act or direct others to act to mitigate the magnitude and duration of the instance of exceeding that IROL within the IROL's Tv.

It should be noted that there is potential overlap between these two requirements in the instance where there is an IROL exceedance but they are not duplicative. IRO-008-1 addresses actions to prevent or mitigate an IROL exceedance while IRO-009-1 addresses an actual exceedance and acting to mitigate the magnitude and duration of the exceedance within Tv.

A suggestion was also made to reconsider retiring Requirement R3. The FYRT discussed retaining the requirement but decided to recommend retiring Requirement R3. The intent of Requirement R3 is not to define a curtailment process when the IDC is compromised or unavailable. In the event of an IDC failure, TLR action would be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the BES. The FYRT contends that Requirement R3 contains actions that are automatically generated via the IDC tool and sent to proper entities upon issuance of the TLR. This requirement should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.

A suggestion was made to retain the first three bullets in Requirement R4. The FYRT has elected to retain the bullets and make a recommendation to the standard drafting team to review the bullets to determine whether or not they remain in the standard.

Also, the FYRT will include a recommendation in the FYR Template that the standard drafting team incorporate a reference in the standard to the criteria, which are found in the NAESB Business Practices, used in determining the specific curtailments to be made when a TLR is issued.

IRO-008-1

Based on stakeholder comments, the IRO FYRT has incorporated the notification requirements from IRO-005-4 into the proposed requirements of IRO-008-2. The FYRT initially suggested changing “interconnection” to the defined term “Interconnection”. Based on the comments below, the FYRT has proposed revising the purpose statement to eliminate this reference:

“To prevent instability, uncontrolled separation, or Cascading that adversely impact the reliability of the Bulk Electric System.”

IRO-009-1

Stakeholders suggested consolidating IRO-005-4, Requirement R1; IRO-008-1, Requirement R3; and IRO-009-1, Requirement R4. IRO-005-4, Requirement R1 was merged into IRO-008-1 to eliminate redundancy. While there is potential overlap between the remaining two requirements in the instance where there is an IROL exceedance, they are not entirely duplicative. IRO-008-1 addresses actions to prevent or mitigate an IROL exceedance while IRO-009-1 addresses an actual exceedance and acting to mitigate the magnitude and duration of the exceedance within Tv.

While the FYRT did not receive comments on the Purpose Statement, the word “interconnection” was replaced with “Bulk Electric System” to be consistent with IRO-008-2.

Several stakeholders agreed with the removal of the phrase “without delay” from both R4 and R5 of IRO-009-1. The FYRT has had discussions with FERC staff regarding the genesis of the inclusion of “without delay” in the reliability standards. While the team agrees that actions should occur as soon as possible, this language is not measurable. The reliability objective of IRO-009-1, Requirement R4 is to mitigate the magnitude and duration of an IROL exceedance and it is implicit that the RC will act as quickly as possible to achieve this reliability objective. The reliability objective of IRO-009-1, Requirement R5 is to ensure that the most conservative value is used in the event of a disagreement.

A suggestion was made to move IRO-009-1, Requirement R5 into IRO-014-2 as it has similar “conflict resolution” requirements. The FYRT notes that R5 contains language regarding an IROL or its Tv within an RC Area. This aspect is distinctly different than what is contained in IRO-014-2 and deals primarily with RC to RC coordination.

IRO-010-1a

Based on stakeholder feedback, the FYRT has recommended replacing “interconnection” in the Purpose Statement with “Bulk Electric System”. The FYRT received feedback from a couple of stakeholders suggesting that the team not add DP and PC to the standard. Most stakeholders agreed with the addition of these two entities. The team still recommends that these entities should be added as they may play an important role in providing data to the RC. To the extent that the RC does not request the information, there is no additional work for the DP or PC.

The FYRT recognizes that the Independent Expert Report recommended consolidating IRO-010 with TOP-003-2. This is based on the new standards construct that they proposed. In recent drafting team efforts, there has been a concerted effort to delineate the RC and TOP roles to clarify their responsibility. The TOP was removed from the IRO standards and the RC was removed from the TOP standards. At this time, the FYRT does not believe that this is an appropriate recommendation as the new standards construct has not been vetted.

A recommendation was made to review the language of Requirement R3, in particular “reliability relationship”. The FYRT agrees that this language is problematic and has proposed the following revision to the language of Requirement R3:

R3. Each Balancing Authority, Distribution Provider, Generator Owner, Generator Operator, Load-serving Entity, Reliability Coordinator, Planning Coordinator, Transmission Operator, and Transmission Owner receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications for data.

General notes:

The IRO FYRT has considered the Independent Expert Review recommendations for the IRO standards. The FYRT agrees with some of these recommendations and has suggested that the standard drafting team incorporate them into the standards.

One commenter had concerns over the provision of outage information and the analysis of the BES to consider these outages ahead of time. The IRO FYRT suggests that this information can be obtained through the RC data specification requirements of IRO-010-1a as well as the new TOP and BA data specifications in TOP-003-2.

Several suggestions were made regarding revisions to standards that are outside of the scope of the FYRT including IRO-002 and IRO-014.

Index to Questions, Comments, and Responses

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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	Guy Zito	Northeast Power Coordinating Council												X
Additional Member		Additional Organization		Region	Segment Selection										
1.	Alan Adamson	New York State Reliability Council, LLC		NPCC	10										
2.	Greg Campoli	New York Independent System Operator		NPCC	2										
3.	Sylvain Clermont	Hydro-Quebec TransEnergie		NPCC	1										
4.	Chris de Graffenried	Consolidated Edison Co. of New York, Inc.			1										
5.	Gerry Dunbar	Northeast Power Coordinating Council		NPCC	10										
6.	Mike Garton	Dominion Resources Services, Inc.		NPCC	5										
7.	Kathleen Goodman	ISO - New England		NPCC	2										
8.	Michael Jones	National Grid		NPCC	1										
9.	Mark Kenny	Northeast Utilities		NPCC	1										
10.	Ayesha Sabouba	Hydro One Networks Inc,		NPCC	1										

Group/Individual	Commenter	Organization	Registered Ballot Body Segment												
			1	2	3	4	5	6	7	8	9	10			
11. Christina Koncz	PSEG Power LLC	NPCC 5													
12. Helen Lainis	Independent Electricity System Operator	NPCC 2													
13. Michael Lombardi	Northeast Power Coordinating Council	NPCC 10													
14. Randy MacDonald	New Brunswick Power Transmission	NPCC 9													
15. Bruce Metruck	New York Power Authority	NPCC 6													
16. Silvia Parada Mitchell	NextEra Energy, LLC	NPCC 5													
17. Lee Pedowicz	Northeast Power Coordinating Council	NPCC 10													
18. Robert Pellegrini	The United Illuminating Company	NPCC 1													
19. Si-Truc Phan	Hydro-Quebec TransEnergie	NPCC 1													
20. David Ramkalawan	Ontario Power Generation, Inc.	NPCC 5													
21. Brian Robinson	Utility Services	NPCC 8													
22. Brian Shanahan	National Grid	NPCC 1													
23. Wayne Sipperly	New York Power Authority	NPCC 5													
24. Donald Weaver	New Brunswick System Operator	NPCC 2													
25. Ben Wu	Orange and Rockland Utilities	NPCC 1													
26. Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC 3													
2.	Group	Ben Engelby	ACES Standards Collaborators									X			
Additional Member		Additional Organization		Region	Segment Selection										
1.	Shari Heino	Brazos Electric Power Cooperative, Inc.		ERCOT	1, 5										
2.	John Shaver	Arizona Electric Power Cooperative/Southwest Transmission Cooperative, Inc.		WECC	1, 4, 5										
3.	Megan Wagner	Sunflower Electric Power Corporation		SPP	1										
3.	Group	Jim Case	SERC OC Review Group				X		X			X			
Additional Member		Additional Organization		Region	Segment Selection										
1.	Marsha Morgan	Southern	SERC	1, 5											
2.	William Berry	OMU	SERC	3											
3.	Catherine Wesley	PJM	SERC	2											
4.	Group	Mike Garton	Dominion				X		X		X	X			
Additional Member		Additional Organization		Region	Segment Selection										
1.	Louis Slade	Dominion Resources Services, Inc.		RFC	5, 6										

Group/Individual	Commenter	Organization	Registered Ballot Body Segment												
			1	2	3	4	5	6	7	8	9	10			
2. Randi Heise	Dominion Resources Services, Inc.	NPCC	5, 6												
3. Connie Lowe	Dominion Resources Services, Inc.	MRO	6												
4. Michael Crowley	Virginia Electric & Power Company	SERC	1, 3, 5, 6												
5. Group	Robert Rhodes	SPP Standards Review Group			X										
Additional Member	Additional Organization	Region	Segment Selection												
1. Margaret Adams	Southwest Power Pool	SPP	2												
2. John Allen	City Utilities of Springfield	SPP	1, 4												
3. Stephanie Johnson	Westar Energy	SPP	1, 3, 4, 5												
4. Tiffany Lake	Westar Energy	SPP	1, 3, 4, 5												
5. James Nail	City of Independence, MO	SPP	3												
6. Mahmood Safi	Omaha Public Power District	MRO	1, 3, 5												
7. Sean Simpson	Board of Public Utilities of Kansas City, KS	SPP	3												
8. Bryan Taggart	Westar Energy	SPP	1, 3, 5, 6												
9. Marc Welsh	Westar Energy	SPP	1, 3, 5, 6												
10. Scott Williams	City Utilities of Springfield	SPP	1, 4												
6. Group	Colby Bellville	Duke Energy		X		X		X	X						
Additional Member	Additional Organization	Region	Segment Selection												
1. Doug Hils	Duke Energy	RFC	1												
2. Lee Schuster	Duke Energy	FRCC	3												
3. Dale Goodwine	Doug Energy	SERC	5												
4. Greg Cecil	Doug Energy	RFC	6												
7. Group	Greg Campoli	ISO/RTO Council Standards Review Committee			X										
Additional Member	Additional Organization	Region	Segment Selection												
1. Kathleen Goodman	ISO-NE	NPCC	2												
2. Ali Miremandi	CAISO	WECC	2												
3. Cheryl Moseley	ERCOT	ERCOT	2												
4. Al DiCaprio	pjm	RFC	2												
5. Charles Yeung	SPP	SPP	2												
6. Terry Bilke	MISO	MRO	2												
7. Ben Li	IESO	NPCC	2												

Group/Individual		Commenter	Organization	Registered Ballot Body Segment										
				1	2	3	4	5	6	7	8	9	10	
8.	Individual	Ryan Millard	PacifiCorp	X		X		X	X					
9.	Individual	Wayne Johnson	Southern Company	X		X		X	X					
10.	Individual	Erika Doot	US Bureau of Reclamation	X				X						
11.	Individual	Nazra Gladu	Manitoba Hydro	X		X		X	X					
12.	Individual	Michelle R. D'Antuono	Ingleside Cogeneration, LP					X						
13.	Individual	Michael Falvo	Independent Electricity System Operator		X									
14.	Individual	Andrew Gallo	City of Austin dba Austin Energy	X		X	X	X	X					
15.	Individual	Tammy Porter	Oncor Electric Delivery	X		X								
16.	Individual	David Thorne	Pepco Holdings Inc	X		X								
17.	Individual	Dave Willis	Idaho Power Company	X										
18.	Individual	Thomas Foltz	American Electric Power	X		X		X	X					
19.	Individual	Karen Webb	City of Tallahassee - Electric Utility					X						
20.	Individual	Kathleen Goodman	ISO New England Inc.		X									
21.	Individual	Bill Fowler	City of Tallahassee			X								
22.	Individual	Scott Langston	City of Tallahassee	X										
23.	Individual	Jennifer Weber	TVA	X		X		X	X					
24.	Individual	Bob Thomas	Illinois Municipal Electric Agency				X							
25.	Individual	Ramon Barany for David Austin	NIPSCO	X		X		X	X					
26.	Individual	Andrew Z. Pusztai	American Transmission Company, LLC	X										
27.	Individual	Cheryl Moseley	Electric Reliability Council of Texas, Inc.		X									
28.	Individual	Alice Ireland	Xcel Energy	X		X		X	X					

If you support the comments submitted by another entity and would like to indicate you agree with their comments, please select "agree" below and enter the entity's name in the comment section (please provide the name of the organization, trade association, group, or committee, rather than the name of the individual submitter).

Organization	Supporting Comments of "Entity Name"
TVA	Endorse the comments of the SERC OC Review Group, in addition to making the comments included here.

1. Do you agree with the recommendation regarding IRO-003-2? If not, please explain specifically what aspects of the recommendation you disagree with.

Summary Consideration: Based on the comments received, the IRO FYRT has revised its proposed revisions to the requirement language to “monitor Facilities to determine expected and detect actual ...” in Requirement R1. Based on discussions between the FYRT and FERC Staff during the consideration of comments, “monitor Facilities” was reinserted into the revised Requirement R1. The FYRT proposes revising Requirement R2 to change “facilities” to “Facilities”. In addition, the phrase “observe and assess” was revised to “know and assess”. This allows for the use of non-telemetered information to achieve the reliability objective. The FYRT has also added a recommendation in the FYR Template for the standard drafting team to consider moving the restoration concept of revised Requirement R2 into EOP-006.

Organization	Yes or No	Question 1 Comment
SPP Standards Review Group	No	To eliminate any conflict regarding division of responsibility between the RC in IRO-003-2 and the TOP in FAC-014-2, we suggest the proposed language in R1 be modified to reflect the backup role of the RC in determining SOL exceedances which are primarily a function of the TOP.
City of Tallahassee - Electric Utility	No	While TAL agrees with the deletion of the first part of the requirement, we are concerned with the second as proposed. With the recent guidance in FERC Order 773 that Cranking Paths do not have to be BES elements, TAL is concerned with how deep the monitoring will go. Will this language require entities to place remote monitoring on these assets to allow the current status to be transmitted to the RC? These assets (480 VAC) currently do not have any remote access or monitoring capability, keeping them out of the CIP Critical Cyber Asset category. To add this capability for a resource that cannot power anything but the auxiliaries at its own station is burdensome. These assets cannot help restore the RC Area, they can only start the local TOP/BA area. The area referred to should

Organization	Yes or No	Question 1 Comment
		be described as the RC Area if that is what is intended.
City of Tallahassee	No	While TAL agrees with the deletion of the first part of the requirement, we are concerned with the second as proposed. With the recent guidance in FERC Order 773 that Cranking Paths do not have to be BES elements, TAL is concerned with how deep the monitoring will go. Will this language require entities to place remote monitoring on these assets to allow the current status to be transmitted to the RC? These assets (480 VAC) currently do not have any remote access or monitoring capability, keeping them out of the CIP Critical Cyber Asset category. To add this capability for a resource that cannot power anything but the auxiliaries at its own station is burdensome. These assets cannot help restore the RC Area, they can only start the local TOP/BA area. The area referred to should be described as the RC Area if that is what is intended.
City of Tallahassee	No	While TAL agrees with the deletion of the first part of the requirement, we are concerned with the second as proposed. With the recent guidance in FERC Order 773 that Cranking Paths do not have to be BES elements, TAL is concerned with how deep the monitoring will go. Will this language require entities to place remote monitoring on these assets to allow the current status to be transmitted to the RC? These assets (480 VAC) currently do not have any remote access or monitoring capability, keeping them out of the CIP Critical Cyber Asset category. To add this capability for a resource that cannot power anything but the auxiliaries at its own station is burdensome. These assets cannot help restore the RC Area, they can only start the local TOP/BA area. The area referred to should be described as the RC Area if that is what is intended.
Ingleside Cogeneration, LP	Yes	Ingleside Cogeneration supports the recommended changes to IRO-003-2, even it appears to only apply to Reliability Coordinators. If the FERC directive is

Organization	Yes or No	Question 1 Comment
		<p>implemented as written, the RC will be driven to call for downstream Facility owners/operators to supply “critical” facility status indicators that may or may not serve any useful reliability purpose. We agree that the review team has chosen an equally effective method to address the ruling - reinforcing the RC’s primary function to look for SOL and IROL violations. Additional requirements are not necessary as the RC will have every motivation to acquire the telemetry they need to monitor those parameters.</p>
TVA	Yes	<p>R1: Suggest that the word “determine” be replaced with the word “detect”. R2: Consider moving the concept addressed by the second sentence to EOP-006.</p>
SERC OC Review Group	Yes	<p>R2: The FYRT should consider moving the concept addressed by the second sentence to EOP-006. The FYRT is requested to coordinate with the EOP FYRT to look at this point.</p> <p>R2. Each Reliability Coordinator shall know the current status of all critical facilities whose failure, degradation or disconnection could result in an SOL or IROL violation. Reliability Coordinators shall also know the status of any facilities that may be required to assist area restoration objectives.</p> <p>Proposed R2 (FYRT): Each Reliability Coordinator shall observe and assess the status of Facilities that may be required to assist area restoration objectives.</p>
Southern Company	Yes	<p>Southern agrees with the SERC OC Comments and also strongly supports the recommended changes to R2. The phrase “observe and assess” is much more clear than “shall know the status of”.</p>

Organization	Yes or No	Question 1 Comment
ACES Standards Collaborators	Yes	The proposed revisions to clarify the reliability objective of the requirement are reasonable.
Northeast Power Coordinating Council	Yes	
Dominion	Yes	
Duke Energy	Yes	
ISO/RTO Council Standards Review Committee	Yes	
PacifiCorp	Yes	
US Bureau of Reclamation	Yes	
Manitoba Hydro	Yes	
Independent Electricity System Operator	Yes	
Pepco Holdings Inc	Yes	
ISO New England Inc.	Yes	
NIPSCO	Yes	
Electric Reliability Council of texas, Inc.	Yes	

Organization	Yes or No	Question 1 Comment
Xcel Energy	Yes	
City of Austin dba Austin Energy		Intentionally left blank - not applicable to AE

2. Do you agree with the recommendation regarding IRO-004-2, and the corresponding recommendations for revising IRO-001-3 (provided as a redline of IRO-001-3)? If not, please explain specifically what aspects of the recommendation you disagree with.

Summary Consideration: The IRO FYRT has retained our original recommendation to retire IRO-004-2 and to revise IRO-001-3 to include the Transmission Service Provider (TSP). The IRO FYRT notes that the Industry Expert Review Panel cited IRO-004-2, Requirement R1 as being duplicative with IRO-001-1.1, Requirement R3 which included the TSP as an applicable entity, as well as IRO-001-1.1, Requirement R8. Since IRO-001-3 does not include the TSP, that entity should be added as an applicable entity. Invoking the transmission loading relief process is a reactive process to an event while an RC may discover issues day ahead that could be addressed by directing a TSP to take action to alleviate the potential reliability issue ahead of time. Therefore, the FYRT believes that the TSP should be added as an applicable entity to IRO-001-4 if the IERP recommendation is adopted by the future IRO drafting team. While the FYRT agrees that the likelihood of a TSP receiving a directive is low, the burden of compliance with the revised requirement would be minimal. In cases where the TSP receives a directive that conflicts with other regulatory requirements, Requirement (R3) provides the TSP an allowance to not follow the directive.

The IRO FYRT has included a recommendation to revise IRO-001-4, Requirements R2 and R3 to use similar language as contained in TOP-001-2, Requirements R1 and R2.

Organization	Yes or No	Question 2 Comment
ACES Standards Collaborators	No	<p>(1) We have concerns that the FYRT is recommending to modify IRO-001-3 before the Commission has issued a final order. These recommendations are premature and should be delayed until FERC has approved IRO-001-3.</p> <p>(2) We agree with the recommendations to retire the requirements that meet Paragraph 81 criteria.</p> <p>(3) We are concerned with the addition of TSP to IRO-001-3 R2 and R3. From a practical perspective, what directive would a TSP ever receive that is not handled</p>

Organization	Yes or No	Question 2 Comment
		<p>in other standards. For example, a TSP might receive a request from TOP to lower an SOL to restrict the selling of transmission service on a constrained facility; however, FAC-014-2 R5.2 already compels the TOP to communicate that SOL and MOD-028 compels the TSP to use the SOL.</p>
<p>ISO/RTO Council Standards Review Committee</p>	<p>No</p>	<p>As per the expert review, delete IRO-004 R1 (duplicative) and IRO-014 R2, R4 (administrative), R7 and R8 (duplicative).</p> <p>The Background Information (above on the Comment Form) reads “Retire Requirement R1 under Criterion B7 of Paragraph 81; as well as Requirements R2 and R3 upon regulatory approval of IRO-001-3.” IRO-004-2 only has one requirement.</p> <p>There is no justification for adding the TSP to R2 and R3 of IRO-001-4. If the intent is to curtail transmission service or transactions using such service, this can currently be accomplished by one of the operating entities (BA, TOP or RC) using existing procedures such as TLR and redispatch.</p> <p>The Purpose statements of each Standard should be reviewed to ensure that the combined Standard adequately.</p>
<p>Northeast Power Coordinating Council</p>	<p>No</p>	<p>As per the expert review, delete IRO-004 R1 (duplicative) and IRO-014 R2, R4(administrative), R7 and R8 (duplicative).</p> <p>The Background Information (above on the Comment Form) reads “Retire Requirement R1 under Criterion B7 of Paragraph 81; as well as Requirements R2 and R3 upon regulatory approval of IRO-001-3.” IRO-004-2 only has one requirement.</p> <p>There is no justification for adding the TSP to R2 and R3 of IRO-001-4. If the intent is to curtail transmission service or transactions using such service, this can</p>

Organization	Yes or No	Question 2 Comment
		<p>currently be accomplished by one of the operating entities (BA, TOP or RC) using existing procedures such as TLR and redispatch.</p> <p>The Purpose statements of each Standard should be reviewed to ensure that the combined Standard adequately addresses both.</p>
ISO New England Inc.	No	<p>As per the expert review, delete IRO-004 R1 (duplicative).</p> <p>The Background Information (above on the Comment Form) reads “Retire Requirement R1 under Criterion B7 of Paragraph 81; as well as Requirements R2 and R3 upon regulatory approval of IRO-001-3.” IRO-004-2 only has one requirement.</p> <p>There is no justification for adding the TSP to R2 and R3 of IRO-001-4. If the intent is to curtail transmission service or transactions using such service, this can currently be accomplished by one of the operating entities (BA, TOP or RC) using existing procedures such as TLR and redispatch.</p> <p>The Purpose statements of each Standard should be reviewed to ensure that the combined Standard adequately addresses both.</p>
Dominion	No	<p>Dominion does not believe the SDT has justified adding TSP to R2 and R3. If the intent is curtail transmission service or transactions using such service, we would suggest that this can be currently be accomplished by one of the operating entities (BA, TOP or RC) using existing procedures such as TLR and redispatch.</p> <p>Dominion suggests review of the Purpose of each standard to ensure the combined standard adequately addresses both.</p>
SERC OC Review Group	Yes	Concur with retiring this Standard. We further request that the FYRT recommend

Organization	Yes or No	Question 2 Comment
		use of language similar to that of TOP-001-2 R1 and R2.
TVA	Yes	Concur with retiring this Standard. See also comment in “Other Comments” section for IRO-001-3, which the FYRT addresses in their comments on this Standard: suggest the FYRT recommend use of language similar to that of TOP-001-2 R1 and R2.
Southern Company	Yes	Southern agrees with the SERC OC Comments.
SPP Standards Review Group	Yes	
Duke Energy	Yes	
PacifiCorp	Yes	
US Bureau of Reclamation	Yes	
Manitoba Hydro	Yes	
Independent Electricity System Operator	Yes	
City of Austin dba Austin Energy	Yes	
Oncor Electric Delivery	Yes	
Pepco Holdings Inc	Yes	
Idaho Power Company	Yes	
American Electric Power	Yes	

Organization	Yes or No	Question 2 Comment
City of Tallahassee - Electric Utility	Yes	
City of Tallahassee	Yes	
City of Tallahassee	Yes	
NIPSCO	Yes	
American Transmission Company, LLC	Yes	
Electric Reliability Council of Texas, Inc.	Yes	
Xcel Energy	Yes	

3. Do you agree with the recommendation regarding IRO-005-4? If not, please explain specifically what aspects of the recommendation you disagree with.

Summary Consideration: Based on stakeholder feedback, the IRO FYRT has consolidated notification requirements from IRO-005-4 into proposed IRO-008-2. Therefore, the IRO FYRT is recommending that IRO-005-4 be retired in its entirety. IRO-008-1 addresses IROLs while IRO-005-4 addresses Adverse Reliability Impacts. The FYRT believes that consolidating the notification requirements into IRO-008-1 is appropriate because of overlaps in the definitions of these two terms. An IROL is defined as “A System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Bulk Electric System.” This is based on the definition of Adverse Reliability Impact that is pending FERC approval. The pending definition is: “The impact of an event that results in Bulk Electric System instability or Cascading.” These two defined terms both address instability and Cascading. The definition of IROL also includes uncontrolled separation. The IRO FYRT has elected to not retire or revise Adverse Reliability Impact because it is used in other standards and defined terms.

Organization	Yes or No	Question 3 Comment
TVA	No	<p>IRO-005-4 should be retired in its entirety.</p> <p>The proposed revision to the Glossary definition of the term “Adverse Reliability Impact” is encompassed in its entirety by the FERC-approved Glossary definition of “IROL”. As such, the requirements in IRO-005-4 are redundant with IRO-008-1.</p> <p>Along with this recommendation, the term “Adverse Reliability Impact” should be evaluated for retirement, replacing it with “IROL” or other phrases where appropriate throughout all NERC Standards. If this does not seem appropriate, then the term “Adverse Reliability Impact” should be revised to clearly distinguish how it differs from the concept of an IROL, when used in NERC Standards.</p>
City of Tallahassee - Electric Utility	No	<p>The action proposed is to recommend finding a way to do it. The review team should propose the changes needed or recommended.</p>
City of Tallahassee	No	<p>The action proposed is to recommend finding a way to do it. The review team should propose the changes needed or recommended.</p> <p>PROPOSED: R1. When the results of an Operational Planning Analysis or Real-</p>

Organization	Yes or No	Question 3 Comment
		<p>time Assessment indicate an anticipated or actual condition with Adverse Reliability Impacts within its Reliability Coordinator Area, each Reliability Coordinator shall notify all impacted Transmission Operators and Balancing Authorities in its Reliability Coordinator Area.</p> <p>R1.1. If any IROL is identified as being exceeded during anticipated normal and Contingency event conditions, the RC shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take, or actions it shall direct others to take, (up to and including load shedding) that can be implemented in time to prevent exceeding those IROLs or mitigating the IROL within Tv.</p>
City of Tallahassee	No	<p>The action proposed is to recommend finding a way to do it. The review team should propose the changes needed or recommended.</p> <p>PROPOSED: R1. When the results of an Operational Planning Analysis or Real-time Assessment indicate an anticipated or actual condition with Adverse Reliability Impacts within its Reliability Coordinator Area, each Reliability Coordinator shall notify all impacted Transmission Operators and Balancing Authorities in its Reliability Coordinator Area.</p> <p>R1.1. If any IROL is identified as being exceeded during anticipated normal and Contingency event conditions, the RC shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take, or actions it shall direct others to take, (up to and including load shedding) that can be implemented in time to prevent exceeding those IROLs or mitigating the IROL within Tv.</p>
ACES Standards Collaborators	Yes	<p>The proposed revisions to ensure consistency of the requirements with other standards are reasonable.</p>
Independent Electricity System	Yes	<p>We agree with reviewing and revising R1 as appropriate, but suggest that the consideration to have R1 covered by the Operating Processes, Plans or</p>

Organization	Yes or No	Question 3 Comment
Operator		Procedures required under IRO-009-1, Requirement R1 be reviewed carefully since the latter requirement deals with IROL only whereas the R1 in IRO-005-4 addresses Adverse Reliability Impacts which cover other system issues such as low voltages, insufficient resource, SOLs, etc.
Electric Reliability Council of texas, Inc.	Yes	We agree with reviewing and revising R1 as appropriate, but suggest that the consideration to have R1 covered by the Operating Processes, Plans or Procedures required under IRO-009-1, Requirement R1 be reviewed carefully since the latter requirement deals with IROL only whereas the R1 in IRO-005-4 addresses Adverse Reliability Impacts which cover other system issues such as low voltages, insufficient resource, SOLs, etc.
SERC OC Review Group	Yes	
SPP Standards Review Group	Yes	
Duke Energy	Yes	
ISO/RTO Council Standards Review Committee	Yes	
PacifiCorp	Yes	
Southern Company	Yes	
US Bureau of Reclamation	Yes	
Manitoba Hydro	Yes	

Organization	Yes or No	Question 3 Comment
Oncor Electric Delivery	Yes	
Pepco Holdings Inc	Yes	
Illinois Municipal Electric Agency	Yes	
Xcel Energy	Yes	
ISO New England Inc.		Delete IRO-005 R4 (“The Reliability Coordinator shall disseminate information within its Reliability Coordinator Area, as required.”) and R11 (The Transmission Service Provider shall respect SOLs and IROLs in accordance with filed tariffs and regional Total Transfer Calculation and Available Transfer Calculation processes.”). R4 doesn’t say anything - what information, to whom, as required by??? R11 doesn’t make sense as TSPs don’t operate any equipment.
City of Austin dba Austin Energy		Intentionally left blank - not applicable to AE

4. Do you agree with the recommendation regarding IRO-006-5? If not, please explain specifically what aspects of the recommendation you disagree with.

Summary Consideration: The IRO FYRT recommendation to affirm IRO-006-5 was supported by industry comments. The standard will be presented to the NERC BOT in November for approval.

Organization	Yes or No	Question 4 Comment
ACES Standards Collaborators	Yes	The proposal to affirm IRO-006 is reasonable.
Northeast Power Coordinating Council	Yes	
SERC OC Review Group	Yes	
Dominion	Yes	
SPP Standards Review Group	Yes	
Duke Energy	Yes	
ISO/RTO Council Standards Review Committee	Yes	
PacifiCorp	Yes	
Southern Company	Yes	
US Bureau of Reclamation	Yes	
Manitoba Hydro	Yes	
Independent Electricity System	Yes	

Organization	Yes or No	Question 4 Comment
Operator		
Pepco Holdings Inc	Yes	
Idaho Power Company	Yes	
American Electric Power	Yes	
City of Tallahassee - Electric Utility	Yes	
ISO New England Inc.	Yes	
City of Tallahassee	Yes	
City of Tallahassee	Yes	
TVA	Yes	
Electric Reliability Council of texas, Inc.	Yes	
Xcel Energy	Yes	
City of Austin dba Austin Energy	Intentionally left blank - not applicable to AE	

5. Do you agree with the recommendation regarding IRO-006-East? If not, please explain specifically what aspects of the recommendation you disagree with.

Summary Consideration: A suggestion was made to retain Requirement R1 since it was developed to address a directive. FERC Order 693, paragraph 964 states:

964. Accordingly, in addition to approving the Reliability Standard, the Commission directs the ERO to develop a modification to IRO-006-3 through the Reliability Standards development process that (1) includes a clear warning that the TLR procedure is an inappropriate and ineffective tool to mitigate actual IROL violations and (2) identifies in a Requirement the available alternatives to mitigate an IROL violation other than use of the TLR procedure. In developing the required modification, the ERO should consider the suggestions of MidAmerican and Xcel.

The IRO FYRT acknowledges that IRO-006-East, Requirement R1 addresses the directive. The FYRT notes that IRO-008-1 and IRO-009-1 were developed after Order 693 was issued and the particular directive was addressed. The FYRT contends that IRO-008-1, Requirement R3 and IRO-009-1, Requirement R4 are redundant with IRO-006-East, Requirement R1 and that the requirements in IRO-008-1 and IRO-009-1 are results-based and specify a reliability objective to be achieved. The requirement in IRO-006-EAST-1 simply provides a list of actions to be taken without any parameters for their use. The requirements of IRO-008-1 and IRO-009-1 point to IROL exceedances and mitigating the magnitude and duration within the IROL's T_v .

IRO-008-1, R3 When a Reliability Coordinator determines that the results of an Operational Planning Analysis or Real-time Assessment indicates the need for specific operational actions to prevent or mitigate an instance of exceeding an IROL, the Reliability Coordinator shall share its results with those entities that are expected to take those actions.

IRO-009-1, R4 When actual system conditions show that there is an instance of exceeding an IROL in its Reliability Coordinator Area, the Reliability Coordinator shall, without delay, act or direct others to act to mitigate the magnitude and duration of the instance of exceeding that IROL within the IROL's T_v .

It should be noted that there is potential overlap between these two requirements in the instance where there is an IROL exceedance but they are not duplicative. IRO-008-1 addresses actions to prevent or mitigate an IROL exceedance while IRO-009-1 addresses an actual exceedance and acting to mitigate the magnitude and duration of the exceedance within T_v .

A suggestion was also made to reconsider retiring IRO-006-East, Requirement R3. The FYRT discussed retaining the requirement but decided to recommend retiring Requirement R3. The intent of R3 is not to define a curtailment process when the IDC is compromised or unavailable. In the event of an IDC failure, TLR action would be very limited resulting in manual curtailments and other manual actions to preserve the reliability of the BES. The FYRT contends that Requirement R3 contains actions that are automatically generated

via the IDC tool and sent to proper entities upon issuance of the TLR. This requirement should be removed from the standard, as it meets Paragraph 81 Criterion B1 – Administrative.

A suggestion was made to retain the first three bullets in Requirement R4. The FYRT has recommended retaining the bullets and make a recommendation to the standard drafting team to review the bullets to determine whether or not they remain in the standard.

Also, the FYRT will include a recommendation in the FYR Template that the standard drafting team incorporate a reference in the standard to the criteria, which are found in the NAESB Business Practices, used in determining the specific curtailments to be made when a TLR is issued.

Organization	Yes or No	Question 5 Comment
ISO/RTO Council Standards Review Committee	No	<p>We do not agree with retiring R1 since it was added to the standard and worded that way to address a FERC directive which asked NERC to clearly include a requirement in the standard that TLR is not an effective means for mitigating IROL violation. The language “...prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)” is meant to convey the idea that TLR alone cannot and shall not be used to mitigate IROL violation, but it can be used together with but not prior to other (more effective) means.</p> <p>The proposal to retire R3 also needs to be reconsidered. The need for this requirement in view of IDC’s automatic generation of the actions contained in R3 was debated at length when the standard was posted for commenting and balloting in 2009. In the end, the vast majority the industry supported the notion that such actions would be required if the event that the IDC became unavailable. Also, there was the issue with who would hold the responsibility for communicating these actions given that it was not appropriate for the vendor of IDC to take up this responsibility and ensure the correctness of the communicated actions. We suggest the 5-Year Review Team of the SDT to consult with NERC staff (the IRO-006-5 Standard Developer) and/or the TLR SDT for further details.</p>

Organization	Yes or No	Question 5 Comment
		<p>Regarding the proposals for R4, the three bullets under R4 need to be retained if Part 3.1 is retired. Otherwise, there is room for improvement to reword and consolidate the three bullets. Note that PJM does not support this comment.</p>
<p>Independent Electricity System Operator</p>	<p>No</p>	<p>We do not agree with retiring R1 since it was added to the standard and worded that way to address a FERC directive which asked NERC to clearly include a requirement in the standard that TLR is not an effective means for mitigating IROL violation. The language “...prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)” is meant to convey the idea that TLR alone cannot and shall not be used to mitigate IROL violation, but it can be used together with but not prior to other (more effective) means.</p> <p>The proposal to retire R3 also needs to be reconsidered. The need for this requirement in view of IDC’s automatic generation of the actions contained in R3 was debated at length when the standard was posted for commenting and balloting in 2009. In the end, the vast majority the industry supported the notion that such actions would be required if the event that the IDC became unavailable. Also, there was the issue with who would hold the responsibility for communicating these actions given that it was not appropriate for the vendor of IDC to take up this responsibility and ensure the correctness of the communicated actions.</p> <p>We suggest the 5-Year Review Team of the SDT to consult with NERC staff (the IRO-006-5 Standard Developer) and/or the TLR SDT for further details.</p> <p>Regarding the proposals for R4, the three bullets under R4 need to be retained if Part 3.1 is retired. Otherwise, there is room for improvement to reword and consolidate the three bullets.</p>
<p>SPP Standards Review Group</p>	<p>No</p>	<p>We suggest that the Review Team take a look at incorporating a reference in the standard to the criteria, which are found in the NAESB Business Practices, used in determining the specific curtailments to be made when a TLR is issued.</p>

Organization	Yes or No	Question 5 Comment
Dominion	Yes	Dominion suggests referencing the specific NAESB business practice associated with the retirement of Requirement R1 for completeness.
Northeast Power Coordinating Council	Yes	Suggest referencing the specific NAESB business practice associated with the retirement of Requirement R1 for completeness.
Southern Company	Yes	The 5 Year Review Team noted that IRO-006-EAST Requirement 1 is redundant with both IRO-008-1 Requirement 3 and IRO-009-1 Requirement 4. Southern agrees with this assessment. Given R1 is redundant with two other requirements; this implies that IRO-008-1 Requirement 3 and IRO-009-1 Requirement 4 are redundant with each other. As such, of these three requirements, only one should be maintained as an enforceable requirement.
ACES Standards Collaborators	Yes	We agree with the recommendations to retire the requirements that meet Paragraph 81 criteria and to clarify language where needed.
SERC OC Review Group	Yes	
Duke Energy	Yes	
PacifiCorp	Yes	
Manitoba Hydro	Yes	
Pepco Holdings Inc	Yes	
City of Tallahassee - Electric Utility	Yes	
ISO New England Inc.	Yes	

Organization	Yes or No	Question 5 Comment
City of Tallahassee	Yes	
City of Tallahassee	Yes	
TVA	Yes	
Xcel Energy	Yes	
City of Austin dba Austin Energy	Intentionally left blank - not applicable to AE	

6. Do you agree with the recommendation regarding IRO-008-1? If not, please explain specifically what aspects of the recommendation you disagree with.

Summary Consideration: Based on stakeholder comments, the IRO FYRT has recommended incorporating the notification requirements from IRO-005-4 into the proposed requirements of IRO-008-2. The FYRT initially suggested changing “interconnection” to the defined term “Interconnection.” Based on the comments below, the FYRT has proposed revising the purpose statement to eliminate this reference, as follows:

“To prevent instability, uncontrolled separation, or Cascading that adversely impact the reliability of the Bulk Electric System.”

Organization	Yes or No	Question 6 Comment
Electric Reliability Council of Texas, Inc.	No	ERCOT believes that the word “interconnection” should remain lower case in the Purpose Statement and in Requirement R2.
City of Tallahassee - Electric Utility	No	IRO-008-1, R3 is the same as IRO-005-4, R1 as proposed above and should be retired.
City of Tallahassee	No	IRO-008-1, R3 is the same as IRO-005-4, R1 as proposed above and should be retired.
City of Tallahassee	No	IRO-008-1, R3 is the same as IRO-005-4, R1 as proposed above and should be retired.
TVA	No	Recommend retaining R3, and instead retiring IRO-005-4 in its entirety.
Independent Electricity System Operator	Yes	We agree with all the proposed change except the capitalization of “interconnection” in the purpose statement. According to NERC Glossary, “When capitalized, any one of the three major electric system networks in North America: Eastern, Western, and ERCOT.” We interpret the word “interconnection” in the purpose to mean interconnected network in general without specific reference to any particular Interconnection. If it was the latter,

Organization	Yes or No	Question 6 Comment
		then all of the Interconnection will need to be spelled out, or that the purpose statement should be reworded to say “all Interconnections”. We suggest to leave this word in local case.
ACES Standards Collaborators	Yes	We agree with the recommendations to retire the requirements that meet Paragraph 81 criteria and to clarify language where needed.
Northeast Power Coordinating Council	Yes	
SERC OC Review Group	Yes	
Dominion	Yes	
SPP Standards Review Group	Yes	
Duke Energy	Yes	
ISO/RTO Council Standards Review Committee	Yes	
PacifiCorp	Yes	
Southern Company	Yes	
US Bureau of Reclamation	Yes	
Manitoba Hydro	Yes	
Pepco Holdings Inc	Yes	
ISO New England Inc.	Yes	

Organization	Yes or No	Question 6 Comment
Xcel Energy	Yes	
City of Austin dba Austin Energy		Intentionally left blank - not applicable to AE

7. Do you agree with the recommendation regarding IRO-009-1? If not, please explain specifically what aspects of the recommendation you disagree with.

Summary Consideration: Stakeholders suggested consolidating IRO-005-4, Requirement R1; IRO-008-1, Requirement R3; and IRO-009-1, Requirement R4. The IRO FYRT reviewed these suggestions and recommends IRO-005-4, R1 be merged into IRO-008-1 to eliminate redundancy. While there is potential overlap between the remaining two requirements in the instance where there is an IROL exceedance, they are not entirely duplicative. IRO-008-1 addresses actions to prevent or mitigate an IROL exceedance while IRO-009-1 addresses an actual exceedance and acting to mitigate the magnitude and duration of the exceedance within T_v .

While the FYRT did not receive comments on the Purpose Statement, the team recommends that the word “interconnection” be replaced with “Bulk Electric System” to be consistent with IRO-008-2.

Several stakeholders agreed with the removal of the phrase “without delay” from both Requirements R4 and R5 of IRO-009-1. The FYRT has had discussions with FERC staff regarding the genesis of the inclusion of “without delay” in the reliability standards. While the team agrees that actions should occur as soon as possible, this language is not measurable. The reliability objective of IRO-009-1, Requirement R4 is to mitigate the magnitude and duration of an IROL exceedance and it is implicit that the RC will act as quickly as possible to achieve this reliability objective. The reliability objective of IRO-009-1, Requirement R5 is to ensure that the most conservative value is used in the event of a disagreement.

A suggestion was made to move IRO-009-1, Requirement R5 into IRO-014-2 as it has similar “conflict resolution” requirements. The FYRT notes that Requirement R5 contains language regarding an IROL or its T_v within an RC Area. This aspect is distinctly different than what is contained in IRO-014-2 and deals primarily with RC to RC coordination. Therefore, the team did not adopt this recommendation.

Organization	Yes or No	Question 7 Comment
City of Tallahassee - Electric Utility	No	While the proposed actions are okay, the recommendations in EOP-005-4, R1 and IRO-008-1, R3 should be combined to remove the duplicative requirement of IRO-009-1. All 3 deal with mitigating IROLs within T_v . Consolidating will make it easier to demonstrate compliance and remove the multiple infractions for a single non-compliance event.
City of Tallahassee	No	While the proposed actions are okay, the recommendations in EOP-005-4, R1 and

Organization	Yes or No	Question 7 Comment
		IRO-008-1, R3 should be combined to remove the duplicative requirement of IRO-009-1. All 3 deal with mitigating IROs within Tv. Consolidating will make it easier to demonstrate compliance and remove the multiple infractions for a single non-compliance event.
City of Tallahassee	No	While the proposed actions are okay, the recommendations in EOP-005-4, R1 and IRO-008-1, R3 should be combined to remove the duplicative requirement of IRO-009-1. All 3 deal with mitigating IROs within Tv. Consolidating will make it easier to demonstrate compliance and remove the multiple infractions for a single non-compliance event.
Electric Reliability Council of Texas, Inc.	Yes	In Requirement R4, we agree that the phrase “without delay” needs to be removed because it is ambiguous and that Tv is the measurable indicator.
TVA	Yes	<p>R4: suggest “...the RC shall act, or direct others to act, to mitigate the IROL exceedance within its Tv.”</p> <p>R5 needs to be moved to IRO-014-2, as the concept is related to R5 through R8 of that Standard.</p> <p>M3: eliminate “without delay”</p>
Southern Company	Yes	Southern agrees with the SERC OC Comments.
SERC OC Review Group	Yes	<p>The FYRT should consider removing “without delay” from M3.</p> <p>The FYRT should consider changing “conservative” to “limiting” in M3.</p>
Independent Electricity System Operator	Yes	We agree with all the proposed retirement/revisions but the proposal to remove “without delay” from R4 needs to be revisited. There was a lengthy debate on this during the posting and balloting of the standard. The decision to leave this in the requirement was based primarily on concerns expressed by the regulatory authorities that without such words, Responsible Entities would delay taking

Organization	Yes or No	Question 7 Comment
		actions until closer to the end of the Tv period. This would not drive the right behavior to mitigate IROL exceedances as soon as practicable. Please consult the staff facilitator (Standard Developer) for the project and/or the Reliability Coordination SDT. Although we not have a position on the proposed revision to the VSL for R4, we suggest that the staff facilitator (Standard Developer) for the project and/or the Reliability Coordination SDT be consulted to get the background behind the 5 minute threshold as it was added to address regulatory authorities' concern over the delayed actions issue.
ACES Standards Collaborators	Yes	We agree with the recommendations to combine requirements R1 and R2 and to remove ambiguous language where needed.
Northeast Power Coordinating Council	Yes	
Dominion	Yes	
SPP Standards Review Group	Yes	
Duke Energy	Yes	
ISO/RTO Council Standards Review Committee	Yes	
PacifiCorp	Yes	
US Bureau of Reclamation	Yes	
Manitoba Hydro	Yes	
Pepco Holdings Inc	Yes	

Organization	Yes or No	Question 7 Comment
ISO New England Inc.	Yes	
Xcel Energy	Yes	
City of Austin dba Austin Energy		Intentionally left blank - not applicable to AE

8. Do you agree with the recommendation regarding IRO-010-1a? If not, please explain specifically what aspects of the recommendation you disagree with.

Summary Consideration: Based on stakeholder feedback, the FYRT has recommended replacing “interconnection” in the Purpose Statement of IRO-010-1a with “Bulk Electric System”. The FYRT received feedback from a couple of stakeholders suggesting that the team not add DP and PC to the standard. Most stakeholders agreed with the addition of these two entities. The team still recommends that these entities should be added as they may play an important role in providing data to the RC. To the extent that the RC does not request the information, there is no additional work for the DP or PC.

The FYRT recognizes that the Independent Expert Report recommended consolidating IRO-010-1a with TOP-003-2, based on the new standards construct that the independent experts proposed. In recent drafting team efforts, there has been a concerted effort to delineate the RC and TOP roles to clarify their responsibility. The TOP was removed from the IRO standards and the RC was removed from the TOP standards. At this time, the FYRT does not believe that it is appropriate to incorporate this recommendation as the new standards construct has not been vetted.

A recommendation was made to review the language of Requirement R3, in particular “reliability relationship”. The FYRT agrees that this language is problematic and has proposed the following revision to the language of Requirement R3:

- R3. Each Balancing Authority, Distribution Provider, Generator Owner, Generator Operator, Load-serving Entity, Reliability Coordinator, Planning Coordinator, Transmission Operator, and Transmission Owner receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications for data.

Organization	Yes or No	Question 8 Comment
ACES Standards Collaborators	No	(1) We disagree that the DP should be included as an applicable entity to IRO-010. The statement in the recommendation, “The DP owns and installs UF relays and other assets” is vague and misleading. The DP may own underfrequency relays, but in most instances these relays are installed on sub-transmission or distribution systems that are not part of the BES. This equipment is not subject to the NERC standards and therefore should not be included in IRO-010. In question 5 of the review form, the team even acknowledged that not all entities have Facilities. Further, the DP is already required to supply the data to the PC via PRC-

Organization	Yes or No	Question 8 Comment
		<p>006. The DP should not be included here.</p> <p>(2) We disagree with the inclusion of the PC. While it is correct that the PC builds the necessary models there is no documented case where an RC has been unable to obtain the necessary models from the PC. We think this is an unnecessary addition to the standard.</p> <p>(3) We agree with including the interpretation for R1 and R3 for clarity.</p> <p>(4) We agree with other clarifications for glossary terms and compliance elements, with the exception of including the DP, as mentioned earlier.</p> <p>(5) The Independent Expert Report recommended consolidating IRO-010 with TOP-003-2. In the review form, the team mentions revising the standard to align language with TOP-003. We recommend considering a consolidation of the two standards.</p>
ISO New England Inc.	No	Adding the DP does not make sense since every RC does not interface with its DPs unless the DPs are also TOPs.
Electric Reliability Council of texas, Inc.	No	ERCOT believes that the word “interconnection” should remain lower case in the Purpose Statement.
Xcel Energy	No	Since the rationale for the change is to ensure that RC can receive UFLS and UVLS data from applicable data owners, it should be noted that the PC is also a recipient (like the RC) of UFLS/UVLS data from the TO’s and DP’s. Therefore, adding PC as applicable entity would be inconsistent (and potentially contradictory) with the UFLS/UVLS data ownership and provider roles of TO and DP identified in the applicable standards - see PRC-007-0 (existing) and PRC-006-1 (future) for UFLS and PRC-021-1 (existing) for UVLS.
SPP Standards Review Group	No	When including the Planning Coordinator in the Applicability Section of IRO-010-1a, the Review Team needs to look at the requirements to make sure the Time

Organization	Yes or No	Question 8 Comment
		Horizons are consistent with the Planning Coordinator functionality. The Time Horizon for R3 is Operational Planning. Is this compatible with the Planning Coordinator function?
Illinois Municipal Electric Agency	Yes	IRO-010-1a has presented a challenge for entities, particularly LSEs, to demonstrate compliance with Requirement 3. Illinois Municipal Electric Agency recommends consideration of language that IRO-010 R3 is not applicable to an LSE that is a member of, and operates under Agreements with, an RTO/ISO.
Dominion	Yes	Not sure why UFLS/UVLS data is needed to support real-time operation.
ISO/RTO Council Standards Review Committee	Yes	Note: PJM does not support this comment.
Independent Electricity System Operator	Yes	We agree with all of the proposed changes/retirements except the followings: Replacing "interconnection" with "Interconnection". Please refer to our comment under Q6 on a similar proposal for IRO-008-1.
NIPSCO		Per David Austin for R3: The term "reliability relationship" is ambiguous and needs to be vetted or framed in the context of one of the terms in the NERC glossary. For example, NIPSCO is in a clear "reliability relationship" with MISO as we have a contractual agreement with them. However, I am also in a "reliability relationship" with PJM, as we are neighboring TOPs. Maybe we could use the term "contractual Agreement" as Agreement is a NERC defined term.
Northeast Power Coordinating Council	Yes	
SERC OC Review Group	Yes	
Duke Energy	Yes	

Organization	Yes or No	Question 8 Comment
PacifiCorp	Yes	
Southern Company	Yes	
US Bureau of Reclamation	Yes	
Manitoba Hydro	Yes	
City of Austin dba Austin Energy	Yes	
Oncor Electric Delivery	Yes	
Pepco Holdings Inc	Yes	
Idaho Power Company	Yes	
American Electric Power	Yes	
City of Tallahassee - Electric Utility	Yes	
City of Tallahassee	Yes	
City of Tallahassee	Yes	
TVA	Yes	

9. If you have any other comments on the Five-Year Review Recommendation that you have not already mentioned above, please provide them here:

Summary Consideration: The IRO FYRT has considered the Independent Expert Review recommendations for the IRO standards. The FYRT agrees with some of these recommendations and has suggested that the standard drafting team incorporate them into the standards. Documentation of the FYRT’s review of the IERP recommendations can be found in the Consideration of Issues, Directives and Recommendations document.

One commenter had concerns over the provision of outage information and the analysis of the BES to consider these outages ahead of time. The IRO FYRT suggests that this information can be obtained through the RC data specification requirements of IRO-010-1a as well as the new TOP and BA data specifications in TOP-003-2.

Several suggestions were made regarding revisions to standards that are outside of the scope of the FYRT including IRO-002 and IRO-014.

Organization	Question 9 Comment
ACES Standards Collaborators	(1) We recommend that the review team take the Independent Expert Review into consideration. There are several EOP modifications based on the expert’s recommendations. We are concerned that the review teams are not aware of or did not consider these expert recommendations. (2) Thank you for the opportunity to comment.
Northeast Power Coordinating Council	After review of the 16 Standards related to Interconnection Reliability Operations and Coordination, suggest that the TOP Standards be reviewed to see if similar aggregation is possible.
City of Austin dba Austin Energy	Austin Energy (AE) requests the Five-Year Review team add the consideration of further consolidation to the list. It seems there are a lot of IRO standards with one or two requirements each.
Dominion	Dominion believes that there is no need to have 16 standards related to Interconnection Reliability Operations and Coordination and suggests that the team

Organization	Question 9 Comment
	look at the TOP standards currently filed at FERC to see if similar aggregation is possible.
Illinois Municipal Electric Agency	Illinois Municipal Electric Agency (IMEA) appreciates the IRO Five-Year Review Team's comprehensive review and recommendations. NERC's uniform objectives and process for review and development of high quality, results-based Reliability Standards is very encouraging. IMEA comments were limited to those IRO Reliability Standards applicable to one of our registered functions.
TVA	<p>IRO-001-3 R1 "RC authority to act" is redundant with IRO-014-2 R1.6</p> <p>The language in IRO-001-3 R2 and R3 need to be revised to match that of TOP-001-2.</p> <p>The requirement to "comply with its Reliability Coordinator's direction" establishes a level of RC authority that is too broad, vague, and non-specific. (The FYRT touches on this issue in the "2. Clarity" discussion for IRO-004-2.)</p> <p>A requirement should be added to IRO-002-3 to address the detection and correction of analysis tool degradation and/or malfunction.</p> <p>IRO-014-2: Replace the term "Adverse Reliability Impact" with "IROL"</p> <p>R1.6 is redundant with IRO-001-3 R1</p> <p>R5: Notifications should only be required to potentially affected RCs rather than to all RCs.</p> <p>Move IRO-009-1 R5 to this Standard</p>
Southern Company	No other comments.
US Bureau of Reclamation	Reclamation thanks the review team for their hard work on this project.
SERC OC Review Group	The comments expressed herein represent a consensus of the views of the above

Organization	Question 9 Comment
	named members of the SERC OC Review Group only and should not be construed as the position of the SERC Reliability Corporation, or its board or its officers.
Duke Energy	While Duke Energy agrees with the recommendations of the IRO Five Year Review Team, we would like some assurance be made that outage plans are assessed sufficiently ahead of time for their reliability impact and when plans are modified. The concern is that it is no longer clear that the IRO, FAC, or TOP standards address this issue to ensure proper assessments are being performed.

END OF REPORT