

Comments on draft 9 IROL Standards — IRO-008–010 — Pre-2006

The IROL Standard Drafting Team thanks all commenter's who submitted comments on draft 9 of the Interconnection Reliability Operating Limit standards. These standards were posted for a 30-day public comment period from March 26, 2008 through April 25, 2009. The stakeholders were asked to provide feedback on the SAR through a special Standard Comment Form.

<http://www.nerc.com/~filez/standards/IROL.html>

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, Gerry Adamski, at 609-452-8060 or at gerry.adamski@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.¹

¹ The appeals process is in the Reliability Standards Development Procedures:
<http://www.nerc.com/standards/newstandardsprocess.html>.

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Consideration of Comments on Draft 9 of IROL Standards — Pre-2006

Individual or group.	Name	Organization/Group	Registered Ballot body segment (check all industry segments in which your company is registered)					
Individual	Rick White	Northeast Utilities	1 - Transmission Owners					
Group	Guy V. Zito	NPCC Regional Standards Committee, RSC	10 - Regional Reliability Organizations/Regional Entities	Additional Member	Additional Organization	Region	Segment Selection	
				1.	Ralph Rufrano	New York Power Authority	NPCC	5
				2.	Michael Gildea	Constellation Energy	NPCC	6
				3.	William DeVries	New York Independent System Operator	NPCC	2
				4.	Nabil Hitti	National Grid	NPCC	3, 4
				5.	Brian Gooder	Ontario Power Generation, Inc.	NPCC	5
				6.	Brian Evans-Mongeon	Utility Services	NPCC	6
				7.	Kathleen Goodman	ISO - New England	NPCC	2
				8.	Ron Falsetti	Independent Electricity System Operator	NPCC	2
				9.	David Kiguel	Hydro One Networks, Inc.	NPCC	1
				10.	Don Nelson	Massachusetts Dept. of Public Utilities	NPCC	9
				11.	Ed Thompson	Consolidated Edison Co. of New York, Inc.	NPCC	1
				12.	Ron Hart	Dominion Resources, Inc.	NPCC	5
				13.	Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
				14.	Randy MacDonald	New Brunswick System Operator	NPCC	2
				15.	Roger Champagne	Hydro-Quebec TransEnergie	NPCC	2
Individual	Roger Champagne	Hydro-Québec TransEnergie	1 - Transmission Owners					
Individual	Ed Davis	Entergy Services	1 - Transmission Owners					
Group	Linda Perez	RCCWG - reliability coordinator						

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Individual or group.	Name	Organization/Group	Registered Ballot body segment (check all industry segments in which your company is registered)					
		comments working group						
Individual	Craig McLean	Manitoba Hydro	1 - Transmission Owners, 3 - Load-serving Entities, 6 - Electricity Brokers, Aggregators , 5 - Electric Generators					
Group	Robert Rhodes	Operating Reliability Working Group	2 - RTOs and ISOs, 3 - Load-serving Entities, 5 - Electric Generators, 1 - Transmission Owners	Additional Member	Additional Organization	Region	Segment Selection	
				1.	Brian Berkstresser	Empire District Electric	SPP	1, 3, 5
				2.	Mike Gammon	Kansas City Power and Light	SPP	1, 3, 5
				3.	Allen Klassen	Westar Energy	SPP	1, 3, 5
				4.	Danny McDaniel	CLECO	SPP	1, 3, 5
				5.	Kyle McMenamin	Southwestern Public Service	SPP	1, 3, 5
				6.	Robert Rhodes	Southwest Power Pool	SPP	2
Group	Melinda Montgomery	SERC OC Standards Review Group - IROL Standards, IRO-008-1, 009-1, 010-1	1 - Transmission Owners, 3 - Load-serving Entities	Additional Member	Additional Organization	Region	Segment Selection	
				1.	Gregory Rowland	Duke Energy Carolinas	SERC	1, 3
				2.	Sam Holeman	Duke Energy Carolinas	SERC	1, 3
				3.	Stuart Goza	Central Sub-region Reliability Coordinator (TVA)	SERC	1, 3, 9
				4.	Robert Thomasson	Big Rivers Electric Coop.	SERC	1, 3
				5.	Dan Jewell	Louisiana Generating, LLC	SERC	1, 3, 4
6.	Rene' Free	Santee Cooper	SERC	1,				

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				3, 9																																				
				7. Glenn Stephens Santee Cooper SERC 1, 3, 9																																				
				8. Louis Slade Dominion Virginia Power SERC 3, 5, 6																																				
				9. Danny Dees Municipal Electric Authority of GA SERC 1, 3																																				
				10. Steve Corbin Southeastern Sub-region Reliability Coordinator (Southern Company) SERC 1, 3																																				
				11. Raymond Vice Southern Company SERC 1, 3																																				
				12. Jim Case Entergy Services, Inc. SERC 1, 3																																				
				13. Jim Griffith Southern Company SERC 1, 3																																				
				14. George Carruba East Kentucky Power Cooperative SERC 1, 3, 5																																				
Individual	Randy Schimka	San Diego Gas and Electric Co.	5 - Electric Generators, 3 - Load-serving Entities, 1 - Transmission Owners																																					
Individual	Ron Falsetti	Ontario IESO	2 - RTOs and ISOs																																					
Group	Charles Yeung	ISO RTO Council Standards Review Committee	2 - RTOs and ISOs	<table border="1"> <thead> <tr> <th>Additional Member</th> <th>Additional Organization</th> <th>Region</th> <th>Segment Selection</th> </tr> </thead> <tbody> <tr> <td>1. Patrick Brown</td> <td>PJM</td> <td>RFC</td> <td>2</td> </tr> <tr> <td>2. Jim Castle</td> <td>NYISO</td> <td>NPCC</td> <td>2</td> </tr> <tr> <td>3. Ron Falsetti</td> <td>IESO</td> <td>NPCC</td> <td>2</td> </tr> <tr> <td>4. Matt Goldberg</td> <td>ISO NE</td> <td>NPCC</td> <td>2</td> </tr> <tr> <td>5. Brent Kingsford</td> <td>CAISO</td> <td>WECC</td> <td>2</td> </tr> <tr> <td>6. Anita Lee</td> <td>AESO</td> <td>WECC</td> <td>2</td> </tr> <tr> <td>7. Steve Myers</td> <td>ERCOT</td> <td>ERCOT</td> <td>2</td> </tr> <tr> <td>8. Bill Phillips</td> <td>MISO</td> <td>RFC</td> <td>2</td> </tr> </tbody> </table>	Additional Member	Additional Organization	Region	Segment Selection	1. Patrick Brown	PJM	RFC	2	2. Jim Castle	NYISO	NPCC	2	3. Ron Falsetti	IESO	NPCC	2	4. Matt Goldberg	ISO NE	NPCC	2	5. Brent Kingsford	CAISO	WECC	2	6. Anita Lee	AESO	WECC	2	7. Steve Myers	ERCOT	ERCOT	2	8. Bill Phillips	MISO	RFC	2
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Group	Doug Hohlbaugh	FirstEnergy	3 - Load-serving Entities, 5 -	<table border="1"> <thead> <tr> <th>Additional Member</th> <th>Additional Organization</th> <th>Region</th> <th>Segment Selection</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Additional Member	Additional Organization	Region	Segment Selection																																
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Individual or group.	Name	Organization/Group	Registered Ballot body segment (check all industry segments in which your company is registered)																									
			Electric Generators, 6 - Electricity Brokers, Aggregators , 1 - Transmission Owners	<table border="1"> <tr> <td>1.</td> <td>Larry Hartley</td> <td>FE</td> <td>RFC</td> </tr> <tr> <td>2.</td> <td>John Wenrich</td> <td>FE</td> <td>RFC</td> </tr> <tr> <td>3.</td> <td>John Reed</td> <td>FE</td> <td>RFC</td> </tr> <tr> <td>4.</td> <td>Dick Kovacs</td> <td>FE</td> <td>RFC</td> </tr> <tr> <td>5.</td> <td>Dave Folk</td> <td>FE</td> <td>RFC</td> </tr> <tr> <td>6.</td> <td>Sam Ciccone</td> <td>FE</td> <td>RFC</td> </tr> </table>	1.	Larry Hartley	FE	RFC	2.	John Wenrich	FE	RFC	3.	John Reed	FE	RFC	4.	Dick Kovacs	FE	RFC	5.	Dave Folk	FE	RFC	6.	Sam Ciccone	FE	RFC
1.	Larry Hartley	FE	RFC																									
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4.	Dick Kovacs	FE	RFC																									
5.	Dave Folk	FE	RFC																									
6.	Sam Ciccone	FE	RFC																									
Individual	Alessia Dawes	Hydro One Networks	3 - Load-serving Entities, 1 - Transmission Owners																									
Individual	Kathleen Goodman	ISO New England Inc	2 - RTOs and ISOs																									
Individual	Jason Shaver	American Transmission Company LLC	1 - Transmission Owners																									

Consideration of Comments on Draft 9 of IROL Standards — Pre-2006

1. The drafting team eliminated IRO-007-1 Requirement R1, the requirement for the Reliability Coordinator to “monitor” its wide area. Monitoring is a “how” – staying within the IROLs is the “required performance.” Do you agree with this change?

Organization/Group	Question 1:	Question 1 Comments:
Northeast Utilities	Yes	
NPCC Regional Standards Committee, RSC	Yes	
Hydro-Québec TransEnergie	Yes	
Entergy Services	Yes	
RCCWG - reliability coordinator comments working group		
Manitoba Hydro	Yes	
Operating Reliability Working Group	Yes	
SERC OC Standards Review Group - IROL Standards, IRO-008-1, 009-1, 010-1	Yes	
San Diego Gas and Electric Co.	Yes	
Ontario IESO	No	The IESO agrees that monitoring is implicit in this set of standards given the RC is held responsible for operating the system within IROLs, and taking corrective actions to prevent and mitigate instances where an SOL or IROL is (or expected to be) exceeded. Nonetheless, the requirement to monitor drives the need for other standards, such as communication and provision of monitoring facilities. Its removal may leave a void in this aspect. We suggest the Standard Drafting Team consider the impact of removing this requirement on the other standards.
ISO RTO Council Standards Review Committee	No	On the one hand, the IRC agrees that monitoring is implicit in this set of standards given the RC is held responsible for operating the system within IROLs, and taking corrective actions to prevent and mitigate instances where an SOL or IROL is (or expected to be) exceeded. Nonetheless, the requirement to monitor drives the need for other standards, such as communication and provision of monitoring facilities. Its removal

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Organization/Group	Question 1:	Question 1 Comments:
		may leave a void in this aspect. We are therefore unable to indicate a preference. We suggest the Standard Drafting Team consider the impact of removing this requirement on other standards.
FirstEnergy	Yes	
Hydro One Networks	Yes	We believe it is ok to eliminate IRO-007-1 R1, as IRO-008-1 R2 requiring the RC to perform "Real-Time Assessments" (every 30 minutes) to determine if any IROL is exceeded, covers off the intent of IRO-007-1 R1. In addition, IRO-008-1 R2 has, at a minimum, a Violation Risk Factor and Time Horizon at least equal to or stricter than IRO-007-1 R1.
ISO New England Inc	No	We understand that monitoring is implicit in this set of standards given the RC is held responsible for operating the system within IROLs, and taking corrective actions to prevent and mitigate instances where an SOL or IROL is (or expected to be) exceeded. Nonetheless, the requirement to monitor drives the need for other standards, such as communication and provision of monitoring facilities. Its removal may leave a void in this aspect. We suggest the SDT consider the ramifications of removing this requirement on other standards.
American Transmission Company LLC	Yes	ATC is okay with dropping IRO-007 R1 because it is covered in IRO-002-1 R5 and R6. IRO-002-1 R5 and R6 require the RC to monitor BES elements that could result in SOL or IROL violations.

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- The drafting team moved IRO-007-1 Requirement R2 (from IRO-007 R2 to IRO-009 R5), the requirement for the Reliability Coordinator to use the most conservative value under consideration when there is a disagreement amongst Reliability Coordinators on the value of an IROL or its T_v . This move seemed to put the related requirements together in a single standard and allowed the elimination of IRO-007. Do you agree with this change?

Organization/Group	Question 2:	Question 2 Comments:
Northeast Utilities	Yes	Please define T_v in the standard.
NPCC Regional Standards Committee, RSC	Yes	
Hydro-Québec TransEnergie	Yes	
Entergy Services	Yes	
RCCWG - reliability coordinator comments working group	Yes	
Manitoba Hydro	Yes	
Operating Reliability Working Group	Yes	
SERC OC Standards Review Group - IROL Standards, IRO-008-1, 009-1, 010-1	Yes	
San Diego Gas and Electric Co.	Yes	
Ontario IESO	Yes	
ISO RTO Council Standards Review Committee	Yes	
FirstEnergy	Yes	
Hydro One Networks	Yes	Since IRO-007-1 R2 describes an action with respect to IROLs, it is appropriate to move that requirement to the IRO-009-1 standard Reliability Coordinator Actions to Operate within IROLs. In addition, the VRF, Time Horizon and VSL (severe) have all been kept the same. Therefore elimination of IRO-007-1 is also appropriate

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Organization/Group	Question 2:	Question 2 Comments:
		at this time.
ISO New England Inc	Yes	
American Transmission Company LLC	Yes	

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3. The drafting team modified the Violation Severity Levels for IRO-008. Do you agree with the new VSLs?

Organization/Group	Question 3:	Question 3 Comments:
Northeast Utilities	No	We agree with the changes to the VSLs for R2 and R3, but are unable to identify the basis for the VSLs for R1, in particular the 30-day "sample" period. This also applies to the 24 hour period for the VSLs for R3 except in the context of real-time operation, most would assume the next 24 hours being a part of the real-time horizon. The 30-day period, however, may not be generalized for the operational planning horizon given a 12 month period already specified in the definition for Operational Planning Analysis.
NPCC Regional Standards Committee, RSC	No	We agree with the changes to the VSLs for R2 and R3, but are unable to identify the basis for the VSLs for R1, in particular the 30-day "sample" period. This also applies to the 24 hour period for the VSLs for R3 except in the context of real-time operation, most would assume the next 24 hours being a part of the real-time horizon. The 30-day period, however, may not be generalized for the operational planning horizon given a 12 month period already specified in the definition for Operational Planning Analysis.
Hydro-Québec TransEnergie	No	HQT agree with the changes to the VSLs for R2 and R3, but is unable to identify the basis for the VSLs for R1, in particular the 30-day "sample" period. This also applies to the 24 hour period for the VSLs for R3 except in the context of real-time operation, most would assume the next 24 hours being a part of the real-time horizon. The 30-day period, however, may not be generalized for the operational planning horizon given a 12 month period already specified in the definition for Operational Planning Analysis.
Entergy Services	Yes	
RCCWG - reliability coordinator comments working group	No	R2 - does this real time assessment only mean state estimator or if state estimator is unavailable, can the RC use other tools to make a real time assessment to meet this requirement? If we can not use other tools then we do not agree with the VSL. If we can use other tools, then we agree with the VSL.
Manitoba Hydro	Yes	
Operating Reliability Working Group	No	As proposed the VSLs do not allow any Real-time Assessments to be missed within a 24-hour period. However, in EOP-008-0, R1.8, the Reliability Coordinator is allowed a one-hour transition period to its backup site. It would seem appropriate that an allowance should be made for this transition in the VSLs for R2.
SERC OC Standards Review Group - IROL Standards, IRO-008-1, 009-1, 010-1	No	We feel that the Violation Severity Levels for IRO-008-1, R2, if applied as currently proposed, are unduly restrictive in measuring the impact of violating the requirement to run a real-time assessment every thirty (30) minutes for the following reasons: 1. During a large portion of the time, system conditions do not change within a thirty (30) minute period and the risk to the interconnection is not the same for every thirty (30) minute period. When violations are not commensurate with the risk to the Interconnection or where there is no real harm, the penalties should be waived or reduced accordingly. Another way of saying this is that the Violation Severity Level and measurement criteria of IRO-008-1 do not measure the potential risk to the interconnection due to violation of these criteria. In fact, no strictly time based criteria can. The best criteria would be the

Organization/Group	Question 3:	Question 3 Comments:
		<p>determination of risk to the interconnection (or change in the level of risk in a positive or higher risk direction) that was not properly detected and acted upon by the Reliability Coordinator. One potential way that this could actually be measured during "after the fact audits" is by choosing a set of specific occurrences during the previous year that impacted interconnection reliability within the RC area and reviewing the RC's documented responses to them. This would greatly enhance the ability of auditors to measure actual RC performance rather than just measuring how often the RC went through the motions of performing an analysis. 2. The requirements do not allow for scheduled maintenance or unplanned down time of EMS systems, thereby requiring a perfect compliance performance for 17,520 study periods in a year. This doesn't allow for any down time for EMS or assessment applications (State Estimator) and this imposes impossible criteria on EMS operations and guarantees that every system will have one or more violations each year. This places an emphasis on or actually measures the performance of tools rather than on the performance of the Reliability Coordinators³. The drafting team may want to seriously reconsider the thirty (30) minute requirement for running real time assessments. Hourly assessments would be more practical for assessing system conditions and for compliance requirements. Systems generally conduct continuous assessments during peak load or abnormal conditions and Reliability Coordinators and Operators should be allowed the flexibility to make reasoned judgments based on their knowledge of the system during normal conditions or during failures of assessment tools. Our support for an hourly interval is also based upon the recommendations of the NERC Real-time Tools Best Practices Task Force. On pages 156-158 of section 2 of their report, the RTBPTF proposes that a new requirement for "look-ahead analyses" be added to standards TOP-002 and IRO-004. Since IRO-008 is intended to replace IRO-004, the recommendation is applicable to IRO-008. Specifically, the recommendation as it pertains to RCs is paraphrased as follows: In order to assess approaching IROL violations, each Reliability Coordinator shall, at a minimum, perform one-hour-ahead Power Flow simulations during the following: + Occurrence of critical system event + Extreme load conditions + Large power transactions + Major planned outages. This recommended requirement would address the "expected" system conditions component of the proposed (and so-called) "Real Time" Assessment. The "existing" system conditions component should be covered by requirements for monitoring found elsewhere in the standards. The rationale for the RTBPTF recommendation came from a deficiency identified in the Blackout Report. Specifically, the report stated: "FE did not perform adequate hour-ahead operations planning studies after Eastlake 5 tripped off-line at 13:31 to ensure that FE could maintain a 30-minute response capability for the next contingency. The FE system was not within single contingency limits from 15:06 to 16:06. In addition to day-ahead planning, the system should have been restudied after the forced outage of Eastlake 5." The recommendation is supported by the findings of the RTBPTF based upon responses received from the task force's survey of RCs and TOPs. The survey showed that 47% of all respondents performed look-ahead studies at intervals less than one hour, and 80% perform such studies at intervals from one hour to one day. Also, 83% of the respondents perform these studies as needed. The survey results indicate that performing look-ahead studies when needed on at least an hourly basis is a prevailing practice. We suggest that the</p>

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Organization/Group	Question 3:	Question 3 Comments:
		Standards Drafting Team work with the RTBPTF to incorporate their recommendation into IRO-008 in lieu of the proposed requirement R2.) We are also concerned about the requirements for evidence to validate compliance with the IRO-008-1 Standard as well as other standards. The compliance program seems to define the window of compliance being the 3 years between compliance audits. However, the IRO-008-1 standard only requires data be retained to demonstrate compliance for a rolling 30 day period. There appears to be a disconnect between the compliance program and the standard, which exposes the Reliability Coordinators to being found non-compliant. In other words, there appears to be a considerable window of time between an audit and the previous audit during which an entity would not have data to demonstrate that they met compliance expectations.] In many cases, the data retention sections in individual standards talk about a much shorter data retention expectation. For example, IRO-008-1 states, "The Reliability Coordinator shall retain evidence for Requirement R1, Measure M1 and Requirement R2, Measure M2 for a rolling 30 days. The Reliability Coordinator shall keep evidence for Requirement R3, Measure M3 for a rolling three months. The question is which data retention expectation is the entity going to be held to with regards to compliance and compliance audits? More clarity needs to be provided on what evidence must be provided in audits.
San Diego Gas and Electric Co.	Yes	
Ontario IESO	No	We agree with the changes to the VSLs for R2 and R3, but are unable to identify the basis for the VSLs for R1, in particular the 30-day "sample" period. This question also applies to the 24 hour period for the VSLs for R3 except in the context of real-time operation, most would assume the next 24 hours being a part of the real-time horizon. The 30-day period, however, may not be generalized for the operational planning horizon given a 12 month period already specified in the definition for Operational Planning Analysis. We asked the SDT to extend the sampling period to 12 months in accordance with the general understanding of the time frame for operations planning.
ISO RTO Council Standards Review Committee	No	We agree with the changes to the VSLs for R2 and R3, but are unable to identify the basis for the VSLs for R1, in particular the 30-day "sample" period. This question also applies to the 24 hour period for the VSLs for R3 except in the context of real-time operation, most would assume the next 24 hours being a part of the real-time horizon. The 30-day period, however, may not be generalized for the operational planning horizon given a 12 month period already specified in the definition for Operational Planning Analysis. We ask the SDT to extend the sampling period to 12 months in accordance with the general understanding of the time frame for operations planning.
FirstEnergy	Yes	You may want to remove the parenthetical reference to the requirement numbers at the end of each VSL. This is not needed since the requirement number is shown in the VSL table in column 1.
Hydro One Networks	No	For VSL requirement R1 we suggest the following: High: Missed performing an Operational Planning Analysis that covers all aspects of the requirement for one of 30 days; Severe: Missed performing an Operational Planning Analysis that covers all aspects of the requirement for two or more of 30 days. As well, for VSL

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Organization/Group	Question 3:	Question 3 Comments:
		requirement R2 we suggest changing the phrase "within a 24-hour period" to "within a 30-day period". This will prevent daily occurrences of violations.
ISO New England Inc	No	We agree with the changes to the VSLs for R2 and R3, but are unable to identify the basis for the VSLs for R1, in particular the 30-day "sample" period. This question also applies to the 24 hour period for the VSLs for R3 except in the context of real-time operation, most would assume the next 24 hours as being the real-time horizon. The 30-day period, however, may not be generalized for the operational planning horizon given a 12 month period already specified in the definition for Operational Planning Analysis. We ask the SDT to extend the sampling period to 12 months in accordance with the general understanding of the time frame for operations planning.
American Transmission Company LLC	Yes	

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4. The drafting team modified IRO-009-1 R1 and R2 by replacing the phrase, “in advance of real-time” with the phrase, “one or more days prior to the current day” to clarify the intent and measurability of these requirements. Do you agree with the change made to R1 and R2 in IRO-009-1?

Organization/Group	Question 4:	Question 4 Comments:
Northeast Utilities	No	We understand that this change is to address possible arguments over what "in advance of real time" really means. However, this change may result in another argument over the coverage of the time period "beyond next hour to the rest of the current day". And with this change, one could interpret that the RC does not need to prepare for action plans for those IROLs not identified in "real-time" or beyond current day. This may leave a hole in reliable operations. To fill this potential "hole", we suggest the "in advance of real time" be replaced with "one or more hours prior to real time", which the real time being understood, or defined, to be current hour. Alternatively, the phrase could be replaced with "beyond the current hour".
NPCC Regional Standards Committee, RSC	No	We understand that this change is to address possible arguments over what "in advance of real time" really means. However, this change may result in another argument over the coverage of the time period "beyond next hour to the rest of the current day". And with this change, one could interpret that the RC does not need to prepare for action plans for those IROLs not identified in "real-time" or beyond current day. This may leave a hole in reliable operations. To fill this potential "hole", we suggest the "in advance of real time" be replaced with "one or more hours prior to real time", which the real time being understood, or defined, to be current hour. Alternatively, the phrase could be replaced with "beyond the current hour".
Hydro-Québec TransEnergie	No	HQT understand that this change is to address possible arguments over what "in advance of real time" really means. However, this change may result in another argument over the coverage of the time period "beyond next hour to the rest of the current day". And with this change, one could interpret that the RC does not need to prepare for action plans for those IROLs not identified in "real-time" or beyond current day. This may leave a hole in reliable operations. To fill this potential "hole", we suggest the "in advance of real time" be replaced with "one or more hours prior to real time", which the real time being understood, or defined, to be current hour. Alternatively, the phrase could be replaced with "beyond the current hour".
Entergy Services	Yes	
RCCWG - reliability coordinator comments working group	Yes	
Manitoba Hydro	Yes	
Operating Reliability Working Group	Yes	
SERC OC	Yes	

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Organization/Group	Question 4:	Question 4 Comments:
Standards Review Group - IROL Standards, IRO-008-1, 009-1, 010-1		
San Diego Gas and Electric Co.	Yes	
Ontario IESO	No	We understand that this change is to address possible arguments over what "in advance of real time" really means. However, this change may result in another argument over the coverage of the time period "beyond next hour to the rest of the current day". And with this change, one could interpret that the RC does not need to prepare for action plans for those IROLs not identified in "real-time" or beyond current day. This may leave a hole in reliable operations. To fill this potential "hole", we suggest the "in advance of real time" be replaced with "one or more hour prior to real time", which the real time being understood, or defined, to be current hour. Alternatively, the phrase could be replaced with "beyond the current hour".
ISO RTO Council Standards Review Committee	No	We understand that this change is to address possible arguments over what "in advance of real time" really means. However, this change may result in another argument over the coverage of the time period "beyond next hour to the rest of the current day". And with this change, one could interpret that the RC does not need to prepare for action plans for those IROLs not identified in "real-time" or beyond current day. This may leave a hole in reliable operations. To fill this potential "hole", we suggest the "in advance of real time" be replaced with "one or more hours prior to real time", with the real time being understood, or defined, to be current hour. Alternatively, the phrase could be replaced with "beyond the current hour".
FirstEnergy	No	It should be clear that the main intent is to have IROL mitigation plans in place for the current operating day. For clarity, we suggest the following replacements for requirements R1 and R2.R1 For the current day operating conditions, each Reliability Coordinator shall have Operating Processes, Procedures or Plans that identify mitigation 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 any of its IROL conditions. The mitigation actions shall be available one or more days prior to the current operating day.R2 For the current day operating conditions, each Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify mitigation actions it shall take or actions it shall direct others to take (up to and including load shedding) to mitigate the magnitude and duration of exceeding any of its IROL conditions, such that the IROL is relieved within the IROL's Tv. The mitigation actions shall be available one or more days prior to the current operating day.
Hydro One Networks	Yes	
ISO New England Inc	No	With this change one could interpret that the RC does not need to prepare for action plans for those IROLs not identified in "real-time," which (we believe) is not the intent. We therefore suggest the "in advance of real-time" be replaced with "one or more hours prior to real-time", with real-time being defined as the current hour.

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Organization/Group	Question 4:	Question 4 Comments:
American Transmission Company LLC	Yes	ATC agrees that the phrase "one or more days prior to the current day" provides additional clarity.

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5. The drafting team modified the Violation Severity Levels for IRO-009. Do you agree with the new VSLs?

Organization/Group	Question 5:	Question 5 Comments:
Northeast Utilities	No	We agree with all of the VSLs except one. The second Severe condition for R4 appears to be giving no recognition that the RC did take corrective actions without delay (within 5 minutes) but was unable to correct the situation of IROL being exceeded. We suggest that this be moved to High as the second condition. In fact, R4 contains 2 requirements: a. take actions without delay (within 5 minutes) and correct the situation of IROL being exceeded. Hence, if an RC fails to perform either one, its violation is deemed to be high. If it fails to perform both, then it is deemed to have fully violated the requirement which is severe.
NPCC Regional Standards Committee, RSC	No	We agree with all of the VSLs except one. The second Severe condition for R4 appears to be giving no recognition that the RC did take corrective actions without delay (within 5 minutes) but was unable to correct the situation of IROL being exceeded. We suggest that this be moved to High as the second condition. In fact, R4 contains 2 requirements: a. take actions without delay (within 5 minutes) and correct the situation of IROL being exceeded. Hence, if an RC fails to perform either one, its violation is deemed to be high. If it fails to perform both, then it is deemed to have fully violated the requirement which is severe.
Hydro-Québec TransEnergie	No	HQT agree with all of the VSLs except one. The second Severe condition for R4 appears to be giving no recognition that the RC did take corrective actions without delay (within 5 minutes) but was unable to correct the situation of IROL being exceeded. We suggest that this be moved to High as the second condition. In fact, R4 contains 2 requirements: a. take actions without delay (within 5 minutes) and correct the situation of IROL being exceeded. Hence, if an RC fails to perform either one, its violation is deemed to be high. If it fails to perform both, then it is deemed to have fully violated the requirement which is severe.
Entergy Services	Yes	
RCCWG - reliability coordinator comments working group	No	R4 High- in the VSL does "acting and directing" include contacting the entity and gathering information and data or does it strictly mean issuing a directive?R5 Severe - eliminate the top VSL, this describes how a failure to mitigate occurred, the issue is there was a failure to mitigate. Also, if an RC issues a directive to mitigate an IROL and the entity fails to comply or is unable to comply is the RC in violation of this requirement?
Manitoba Hydro	Yes	
Operating Reliability Working Group	No	The High VSL for R4 contains an additional requirement that is not in R4. The VSL defines 'without delay' as being five minutes or less. The 'five minute' requirement should be deleted from the VSL.
SERC OC Standards Review Group - IROL Standards, IRO-008-1, 009-1, 010-1	No	The Violation Security Levels for R3 and R4 impose additional requirements that are not in the standard. For R3, it seems inappropriate that the Violation Severity Level should be based upon the effectiveness of the plan to prevent the system from entering an IROL in real-time. The dynamics topology and unit commitment/dispatch of an electric system are constantly changing and no specific occurrence of an SOL or IROL can be accurately represented in planning case studies. It is thus impractical or impossible to devise a perfect process for mitigating each and every instance during which a known IROL may manifest and persist

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Organization/Group	Question 5:	Question 5 Comments:
		<p>as conditions change during the IROL Tv. In R4, if the trigger limit for initiating action is five (5) minutes, then that limit should be explicitly included in the requirements and not introduced for the first time in the measurement criteria. Furthermore, we feel that a time of five (5) minutes is arbitrary and implementation of correct action is the primary requirement. Operators will be under tremendous pressure to work out a solution when an IROL is exceeded and satisfy the five minute requirement. We feel that it is more important to 1) recognize that an IROL has been violated, 2) determine the correct process or procedure required to mitigate the identified IROL, 3) modify the identified generic process or procedure to meet specific real time system conditions as required and, 4) implement the modified process or procedure while at the same time maintaining continuous communications with all parties involved and simultaneously documenting actions being taken as required for NERC audits. It is not clear to us exactly how the five (5) minute trigger adds any value to this process. If the goal is to mitigate the IROL within the IROL Tv, and the actions are successful, what impact does a five (5) minute trigger requirement add to the process? WE STRONGLY SUGGEST THAT THE "HIGH" SEVERITY LEVEL SHOULD BE ELIMINATED FOR R3 AND R4.</p>
San Diego Gas and Electric Co.	Yes	
Ontario IESO	No	<p>We agree with all of the VSLs except one. The second Severe condition for R4 appears to be giving no recognition that the RC did take corrective actions without delay (within 5 minutes) but was unable to correct the situation of IROL being exceeded. We suggest that this be moved to High as the second condition. In fact, R4 contains 2 requirements: a) take actions without delay (within 5 minutes) and b) correct the situation of IROL being exceeded. Hence, if an RC fails to perform one of the two requirements, its violation is deemed to be High. If it fails to perform both, then it is deemed to have fully violated the requirement and hence should be deemed a Severe violation.</p>
ISO RTO Council Standards Review Committee	No	<p>We agree with all of the VSLs except one. The second Severe condition for R4 appears to be giving no recognition that the RC who did take corrective actions without delay (within 5 minutes) but was unable to correct the situation of IROL being exceeded. We suggest that this be moved to High as the second condition. In fact, R4 contains 2 requirements: a. take actions without delay (within 5 minutes) and correct the situation of IROL being exceeded. Hence, if an RC fails to perform one of the two requirements, its violation is deemed to be High. If it fails to perform both, then it is deemed to have fully violated the requirement and hence should be deemed a Severe violation.</p>
FirstEnergy	Yes	<p>For R4, Severe VSL - We recommend retaining only the text below the "OR" statement. The text above is duplicative and adds no additional value since the end result is that the IROL is not mitigated within the allowable Tv timeframe.</p>
Hydro One Networks	No	<p>We agree with the VSLs for requirements 1 and 2. However the high VSL for requirement 3 is not appropriate because it tries to judge the effectiveness of the Operating Processes, Procedures or Plans. Requirement 4 provides for judgment of the effectiveness of the Processes, Procedures or Plans on a basis of being able to</p>

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Organization/Group	Question 5:	Question 5 Comments:
		mitigate the exceeded IROL within the its Tv. As well, R4 includes two requirements: 1) act or direct, without delay, to mitigate the instance of exceeding the IROL; 2) mitigate this instance within the Tv. We suggest that if the RC does not meet both requirements the violation level should be severe and if the RC does not meet one of the requirements the violation level should be high.
ISO New England Inc	No	We agree with all of the VSLs except one. The second Severe condition for R4 appears to be giving no recognition that the RC who did take corrective actions without delay (within 5 minutes) but was unable to correct the situation of IROL being exceeded. We suggest that this be moved to High as the second condition. In fact, R4 contains 2 requirements: a. take actions without delay (within 5 minutes) and b. correct the situation of IROL being exceeded. Hence, if an RC fails to perform one of the two requirements, its violation is deemed to be High. If it fails to perform both, then it is deemed to have fully violated the requirement and hence should be deemed a Severe violation.
American Transmission Company LLC	No	Severe VSL for R4ATC does not agree with the language in the Severe VSL for Requirement 4. The purpose of this VSL is for a Tv violation. ATC recommends that the first description be deleted and only the second description be kept. If the SDT does not agree they should provide a reason for the two descriptions.

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6. The drafting team modified the Violation Severity Levels for IRO-010. Do you agree with the new VSLs?

Organization/Group	Question 6:	Question 6 Comments:
Northeast Utilities	Yes	
NPCC Regional Standards Committee, RSC	Yes	
Hydro-Québec TransEnergie	Yes	
Entergy Services	Yes	
RCCWG - reliability coordinator comments working group	No	What is the expectation for the process when your automated data is not available? Does freezing the State Estimator value and then getting data via phone and fax suffice?
Manitoba Hydro	No	R1 - What constitutes a "complete data specification"? TOP-005-0 Attachment 1, which will become a Technical Reference, needs a tune up. What is the determining factors when identifying transmission and other facilities as "key"? What size of generator is the RC concerned with in regards to on/off status, AVR status, PPS status, MW & Mvar output?
Operating Reliability Working Group	No	The Lower and Moderate VSLs for R1 should be reversed. We believe that it is more important to have a process for obtaining real-time operating data when it becomes unavailable than having the data in the wrong format. At least you have the data.
SERC OC Standards Review Group - IROL Standards, IRO-008-1, 009-1, 010-1	Yes	
San Diego Gas and Electric Co.	No	In the revised IRO-010 Violation Severity Levels Table, there is no provision for less than 100% compliance for real-time data sent by the TO/TOP to the RC. Providing data at a level greater than 95% but less than 100% is cause for a "Lower" Violation Severity Level. That level rises as less data is provided, to a maximum of "Severe" when less than 75% of the requested data is sent to the RC. Real time data typically has some level of availability associated with it that allows for the inherent nature of real time data being less than 100% complete. Examples may include the failure of field equipment such as RTUs, communication circuits, instrumentation, and other events that could impact 100% data availability such as missed RTU scans, loss of data when systems are being shifted to backup EMS systems, etc. Requirement R3 and the Violation Severity Level Violation table need to be re-written to correlate with Requirement 1.4 that would include an exemption for short-term real time data failures or outages when determining the Violation Severity Level, perhaps with

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Organization/Group	Question 6:	Question 6 Comments:
		language such as "excluding unavailable real-time data (R1.4)."
Ontario IESO	Yes	
ISO RTO Council Standards Review Committee	Yes	
FirstEnergy	Yes	
Hydro One Networks	No	We agree with VSLs for R2 and R3 however, we disagree with the VSLs for R1. Example, failing to specify a process for data provision when the automated Real-time system operating data is unavailable could result in the RC being "blind" to what is going on in the system and render them unable to act or direct others to act. We suggest that missing any one of R1's sub-requirements is a High VSL and having no data specification is a Severe VSL.
ISO New England Inc	Yes	
American Transmission Company LLC	No	VSL for R3: The VSLs do not seem to take into account the frequency of not sending the data. The SDT should provide additional detail within each VSL. How will the percentage be determined over time?

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- 7. The drafting team modified the implementation plan to reflect the modifications made based on the elimination of IRO-007-1 Requirement R1. Do you agree with the modifications made to the implementation plan?

Organization/Group	Question 7:	Question 7 Comments:
Northeast Utilities	No	<p>We agree with some but not all of the proposed changes to the other standards. (1) EOP-001 R2: We do not agree with removing this requirement, which says: "The Transmission Operator shall have an emergency load reduction plan for all identified IROLs. The plan shall include the details on how the Transmission Operator will implement load reduction in sufficient amount and time to mitigate the IROL violation before system separation or collapse would occur. The load reduction plan must be capable of being implemented within 30 minutes." This requirement does not equate to the Transmission Operator developing plans for mitigating IROLs, which is the role of the RC. In fact, this requirement holds the TOP responsible for having the load reduction plan in place ahead of real time so that when directed by the RC, it can execute the plan to assist in mitigating the IROL violation. While the IRO-008 to IRO-010 standards give the RC the authority and the flexibility to direct the TOP to do so, having the plan in advance and be ready for execution is not covered by these IRO standards. Further, the amount and timing that the TOP is able to achieve with load reduction must be known to the RC ahead of real time for it to consider the effectiveness of the plan's execution in support of the mitigating action.(2) IRO-002 R2: We agree with retiring this requirement.(3) IRO-004-1 ? Reliability Coordination? Operations Planning: retire entire standard (R1 through R6). We agree with retiring this standard since all requirements are covered elsewhere except R4. This requirement is intended to provide system information not just for the RC within whose area the BA, TOP, etc. reside, but also for other RCs and TOPs, TSPs for system modeling/consideration for their respective specific uses. This requirement needs to be incorporated in an appropriate standard. (4) IRO-005-2? Reliability Coordination? Current Day Operations: Retire R2, R3, and R5; modify R9, R13 and R14; retire R16 and R17.(a) We agree with retiring R2, R3, R5, R16 and R17, and revising R9 and R14.(b) For R13, the Implementation Plan says "retiring" but it should read "revising". We agree with the proposed revision to the part on operating to the most limiting parameter, but do not agree with retiring that part pertaining to ensuring the SOLs and IROLs are not exceeded. This part, which reads: "Each Reliability Coordinator shall ensure that all Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities operate to prevent the likelihood that a disturbance, action, or non-action in its Reliability Coordinator Area will result in a SOL or IROL violation in another area of the Interconnection." R13 actually contains two requirements that are not covered by the new IRO-009: (a) IRO-009 deals with IROL only; the RC needs also to be aware of the SOL situation since an SOL may become an IROL as system conditions change. (b) the requirement also holds the RC responsible for ensuring that the entities within the RC area operate to prevent situations that could result in a SOL or IROL violation in another area of the Interconnection." This is not covered by the new IRO-009. We therefore suggest that R13 be retained with only the revision to remove "Reliability Coordinator and its" from the second sentence. (5) TOP-003-0? Planned Outage Coordination Modify R1.2. We agree with this change. (6) TOP-005-1? Operational Reliability Information: Retire R1 and</p>

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Organization/Group	Question 7:	Question 7 Comments:
		<p>R1.1 and convert Attachment 1 into a reference. We agree with retiring R1 and R1.1 and the proposed conversion of Attachment 1 into a reference. But there doesn't seem to be a draft reference document posted. When the new IRO standards go into effect, the reference documents will need to be available. Please elaborate on the timing and the process for posting and implementing the reference. (7) TOP-006-1? Monitoring System Conditions Voltage and Reactive Control: Modify R4. We agree with this change.</p>
<p>NPCC Regional Standards Committee, RSC</p>	<p>No</p>	<p>We agree with some but not all of the proposed changes to the other standards. (1) EOP-001 R2: We do not agree with removing this requirement, which says: "The Transmission Operator shall have an emergency load reduction plan for all identified IROLs. The plan shall include the details on how the Transmission Operator will implement load reduction in sufficient amount and time to mitigate the IROL violation before system separation or collapse would occur. The load reduction plan must be capable of being implemented within 30 minutes." This requirement does not equate to the Transmission Operator developing plans for mitigating IROLs, which is the role of the RC. In fact, this requirement holds the TOP responsible for having the load reduction plan in place ahead of real time so that when directed by the RC, it can execute the plan to assist in mitigating the IROL violation. While the IRO-008 to IRO-010 standards give the RC the authority and the flexibility to direct the TOP to do so, having the plan in advance and be ready for execution is not covered by these IRO standards. Further, the amount and timing that the TOP is able to achieve with load reduction must be known to the RC ahead of real time for it to consider the effectiveness of the plan's execution in support of the mitigating action.(2) IRO-002 R2: We agree with retiring this requirement.(3) IRO-004-1 ? Reliability Coordination? Operations Planning: retire entire standard (R1 through R6). We agree with retiring this standard since all requirements are covered elsewhere except R4. This requirement is intended to provide system information not just for the RC within whose area the BA, TOP, etc. reside, but also for other RCs and TOPs, TSPs for system modeling/consideration for their respective specific uses. This requirement needs to be incorporated in an appropriate standard. (4) IRO-005-2? Reliability Coordination? Current Day Operations: Retire R2, R3, and R5; modify R9, R13 and R14; retire R16 and R17.(a) We agree with retiring R2, R3, R5, R16 and R17, and revising R9 and R14.(b) For R13, the Implementation Plan says "retiring" but it should read "revising". We agree with the proposed revision to the part on operating to the most limiting parameter, but do not agree with retiring that part pertaining to ensuring the SOLs and IROLs are not exceeded. This part, which reads: "Each Reliability Coordinator shall ensure that all Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities operate to prevent the likelihood that a disturbance, action, or non-action in its Reliability Coordinator Area will result in a SOL or IROL violation in another area of the Interconnection." R13 actually contains two requirements that are not covered by the new IRO-009: (a) IRO-009 deals with IROL only; the RC needs also to be aware of the SOL situation since a SOL may become an IROL as system conditions change. (b) the requirement also holds the RC responsible for ensuring that the entities within the RC area operate to prevent situations that could result in a SOL or IROL violation in another area of the Interconnection." This is not covered by the new IRO-009. We therefore suggest that R13 be retained with only the revision to remove</p>

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Organization/Group	Question 7:	Question 7 Comments:
		<p>"Reliability Coordinator and its" from the second sentence. (5) TOP-003-0? Planned Outage Coordination Modify R1.2. We agree with this change. (6) TOP-005-1? Operational Reliability Information: Retire R1 and R1.1 and convert Attachment 1 into a reference. We agree with retiring R1 and R1.1 and the proposed conversion of Attachment 1 into a reference. But there doesn't seem to be a draft reference document posted. When the new IRO standards go into effect, the reference documents will need to be available. Please elaborate on the timing and the process for posting and implementing the reference. (7) TOP-006-1? Monitoring System Conditions Voltage and Reactive Control: Modify R4. We agree with this change.</p>
Hydro-Québec TransEnergie	No	<p>HQT agree with some but not all of the proposed changes to the other standards. (1) EOP-001 R2: We do not agree with removing this requirement, which says: "The Transmission Operator shall have an emergency load reduction plan for all identified IROLs. The plan shall include the details on how the Transmission Operator will implement load reduction in sufficient amount and time to mitigate the IROL violation before system separation or collapse would occur. The load reduction plan must be capable of being implemented within 30 minutes." This requirement does not equate to the Transmission Operator developing plans for mitigating IROLs, which is the role of the RC. In fact, this requirement holds the TOP responsible for having the load reduction plan in place ahead of real time so that when directed by the RC, it can execute the plan to assist in mitigating the IROL violation. While the IRO-008 to IRO-010 standards give the RC the authority and the flexibility to direct the TOP to do so, having the plan in advance and be ready for execution is not covered by these IRO standards. Further, the amount and timing that the TOP is able to achieve with load reduction must be known to the RC ahead of real time for it to consider the effectiveness of the plan's execution in support of the mitigating action.(2) IRO-002 R2: We agree with retiring this requirement.(3) IRO-004-1 ? Reliability Coordination? Operations Planning: retire entire standard (R1 through R6). We agree with retiring this standard since all requirements are covered elsewhere except R4. This requirement is intended to provide system information not just for the RC within whose area the BA, TOP, etc. reside, but also for other RCs and TOPs, TSPs for system modeling/consideration for their respective specific uses. This requirement needs to be incorporated in an appropriate standard. (4) IRO-005-2? Reliability Coordination? Current Day Operations: Retire R2, R3, and R5; modify R9, R13 and R14; retire R16 and R17.(a) We agree with retiring R2, R3, R5, R16 and R17, and revising R9 and R14.(b) For R13, the Implementation Plan says "retiring" but it should read "revising". We agree with the proposed revision to the part on operating to the most limiting parameter, but do not agree with retiring that part pertaining to ensuring the SOLs and IROLs are not exceeded. This part, which reads: "Each Reliability Coordinator shall ensure that all Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities operate to prevent the likelihood that a disturbance, action, or non-action in its Reliability Coordinator Area will result in a SOL or IROL violation in another area of the Interconnection." R13 actually contains two requirements that are not covered by the new IRO-009: (a) IRO-009 deals with IROL only; the RC needs also to be aware of the SOL situation since a SOL may become an IROL as system conditions change. (b) the requirement also holds the RC responsible for ensuring that the entities within the RC area operate to prevent</p>

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Organization/Group	Question 7:	Question 7 Comments:
		situations that could result in a SOL or IROL violation in another area of the Interconnection." This is not covered by the new IRO-009. We therefore suggest that R13 be retained with only the revision to remove "Reliability Coordinator and its" from the second sentence. (5) TOP-003-0? Planned Outage Coordination Modify R1.2. We agree with this change. (6) TOP-005-1? Operational Reliability Information: Retire R1 and R1.1 and convert Attachment 1 into a reference. We agree with retiring R1 and R1.1 and the proposed conversion of Attachment 1 into a reference. But there doesn't seem to be a draft reference document posted. When the new IRO standards go into effect, the reference documents will need to be available. Please elaborate on the timing and the process for posting and implementing the reference. (7) TOP-006-1? Monitoring System Conditions Voltage and Reactive Control: Modify R4. We agree with this change.
Entergy Services	Yes	
RCCWG - reliability coordinator comments working group	Yes	
Manitoba Hydro	Yes	
Operating Reliability Working Group	No	The retirement of IRO-004-1, R4 and R5 and replacement by IRO-010-1, R1, R2 and R3 seem to be focused on the front-end data sharing requirements. IRO-004-1, R5 specifically addresses sharing the results of the Reliability Coordinator's studies. We can not find a comparable replacement in IRO-010-1, or elsewhere, for this requirement. The SDT should consider moving IRO-005-2, R13 and R14 since these requirements are no longer directed toward the Reliability Coordinator. They don't fit in the IRO standards. We can't seem to find an entry for the retirement of R7 of IRO-004-1. Attachment 1 to TOP-005-2 is shown in the redline version as being deleted apparently due to the proposed retirement of R1. However, Attachment 1 is also referenced in R3 and therefore should not be deleted.
SERC OC Standards Review Group - IROL Standards, IRO-008-1, 009-1, 010-1	Yes	We indicated "Yes" but are really unsure if we are sufficiently aware of what the impacts of the modifications are to system operations. We appreciate the extraordinary amount of effort by individuals involved in developing and revising standards, but we find the implementation plan confusing. This is not the fault of the drafting team, but the fault of the process. There have been innumerable changes to existing standards and to the Functional Model, coupled with FERC requirements to make changes in order to receive their approval. Revisions to standards are being promulgated too rapidly for members to have time to review or keep abreast of proposed changes. The Implementation Plan appears to justify the proposed revisions to, and retirement of, existing standards. we can only trust that the drafting team is using the currently approved version of each identified standard and has stayed abreast of any proposed changes to those standards.
San Diego Gas and Electric Co.	Yes	
Ontario IESO	No	We agree with some but not all of the proposed changes to the other standards. (1) EOP-001 R2: We do not

Organization/Group	Question 7:	Question 7 Comments:
		<p>agree with removing this requirement, which says: "The Transmission Operator shall have an emergency load reduction plan for all identified IROLs. The plan shall include the details on how the Transmission Operator will implement load reduction in sufficient amount and time to mitigate the IROL violation before system separation or collapse would occur. The load reduction plan must be capable of being implemented within 30 minutes." This requirement does not equate to the Transmission Operator developing plans for mitigating IROLs, which is the role of the RC. In fact, this requirement holds the TOP responsible for having the load reduction plan in place ahead of real time so that when directed by the RC, it can execute the plan to assist in mitigating the IROL violation. While the IRO-008 to IRO-010 standards give the RC the authority and the flexibility to direct the TOP to do so, having the plan in advance and be ready for execution is not covered by these IRO standards. Further, the amount and timing that the TOP is able to achieve with load reduction must be known to the RC ahead of real time for it to consider the effectiveness of the plan's execution in support of the mitigating action.</p> <p>(2) IRO-002 R2: We agree with retiring this requirement.</p> <p>(3) IRO-004-1 ? Reliability Coordination? Operations Planning: retire entire standard (R1 through R6). We agree with retiring this standard since all requirements are covered elsewhere except R4. This requirement is intended to provide system information not just for the RC within whose area the BA, TOP, etc. reside, but also for other RCs and TOPs, TSPs for system modeling/consideration for their respective specific uses. This requirement needs to have a "home".</p> <p>(4) IRO-005-2? Reliability Coordination? Current Day Operations: Retire R2, R3, and R5; modify R9, R13 and R14; retire R16 and R17.</p> <p>(a) We agree with retiring R2, R3, R5, R16 and R17, and revising R9 and R14.</p> <p>(b) For R13, the Implementation Plan says "retiring" but it should read "revising". We agree with the proposed revision to the part on operating to the most limiting parameter, but do not agree with retiring that part pertaining to ensuring the SOLs and IROLs are not exceeded. This part, which reads: "Each Reliability Coordinator shall ensure that all Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities operate to prevent the likelihood that a disturbance, action, or non-action in its Reliability Coordinator Area will result in a SOL or IROL violation in another area of the Interconnection" actually contains two requirements that are not covered by the new IRO-009: (a) IRO-009 deals with IROL only; the RC needs also to be aware of the SOL situation since an SOL may become an IROL as system conditions change. (b) the requirement also holds the RC responsible for ensuring that the entities within the RC area operate to prevent situations that could result in a SOL or IROL violation in another area of the Interconnection." This is not covered by the new IRO-009. We therefore suggest that R13 be retained with only the revision to remove "Reliability Coordinator and its" from the second sentence.</p> <p>(5) TOP-003-0? Planned Outage Coordination Modify R1.2. We agree with this change.</p> <p>(6) TOP-005-1? Operational Reliability Information: Retire R1 and R1.1 and convert Attachment 1 into a reference. We agree with retiring R1 and R1.1 and the proposed conversion of Attachment 1 into a reference. But there doesn't seem to be a draft reference document posted. When the new IRO standards go into effect, the reference documents will need to be available. Please elaborate on the timing and the process for posting and implementing the reference.</p> <p>(7) TOP-006-1? Monitoring System Conditions Voltage and Reactive Control:</p>

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Organization/Group	Question 7:	Question 7 Comments:
ISO RTO Council Standards Review Committee	No	<p>Modify R4. We agree with this change.</p> <p>We do not agree with all of the proposed changes. (1) EOP-001 R2: We do not agree with removing this requirement, which says: "The Transmission Operator shall have an emergency load reduction plan for all identified IROLs. The plan shall include the details on how the Transmission Operator will implement load reduction in sufficient amount and time to mitigate the IROL violation before system separation or collapse would occur. The load reduction plan must be capable of being implemented within 30 minutes." This requirement does not equate to the Transmission Operator developing plans for mitigating IROLs, which is the role of the RC. In fact, this requirement holds the TOP responsible for having the load reduction plan in place ahead of real time so that when directed by the RC, it can execute the plan to assist in mitigating the IROL violation. While the IRO-008 to IRO-010 standards give the RC the authority and the flexibility to direct the TOP to do so, having the plan in advance and be ready for execution is not covered by these IRO standards. Further, the amount and timing that the TOP is able to achieve with load reduction must be known to the RC ahead of real time for it to consider the effectiveness of the plan's execution in support of the mitigating action.(2) IRO-002 R2: We agree with retiring this requirement.(3) IRO-004-1 ? Reliability Coordination? Operations Planning: retire entire standard (R1 through R6). We agree with retiring this standard since all requirements are covered elsewhere except R4. This requirement is intended to provide system information not just for the RC within whose area the BA, TOP, etc. reside, but also for other RCs and TOPs, TSPs for system modeling/consideration for their respective specific uses. This requirement needs to have a "home". (4) IRO-005-2? Reliability Coordination? Current Day Operations: Retire R2, R3, and R5; modify R9, R13 and R14; retire R16 and R17.(a) We agree with retiring R2, R3, R5, R16 and R17, and revising R9 and R14.(b) For R13, the Implementation Plan says "retiring" but it should read "revising". We agree with the proposed revision to the part on operating to the most limiting parameter, but do not agree with retiring that part pertaining to ensuring the SOLs and IROLs are not exceeded. This part, which reads: "Each Reliability Coordinator shall ensure that all Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities operate to prevent the likelihood that a disturbance, action, or non-action in its Reliability Coordinator Area will result in a SOL or IROL violation in another area of the Interconnection." actually contains two requirements that are not covered by the new IRO-009: (a) IRO-009 deals with IROL only; the RC needs also to be aware of the SOL situation since an SOL may become an IROL as system conditions change. (b) the requirement also holds the RC responsible for ensuring that the entities within the RC area operate to prevent situations that could result in a SOL or IROL violation in another area of the Interconnection." This is not covered by the new IRO-009. We therefore suggest that R13 be retained with only the revision to remove "Reliability Coordinator and its" from the second sentence. (5) TOP-003-0? Planned Outage Coordination Modify R1.2. We agree with this change. (6) TOP-005-1? Operational Reliability Information: Retire R1 and R1.1 and convert Attachment 1 into a reference. We agree with retiring R1 ad R1.1 and the proposed conversion of Attachment 1 into a reference. But there doesn't seem to be a draft reference document posted. When the new IRO standards go into effect, the reference</p>

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Organization/Group	Question 7:	Question 7 Comments:
		documents will need to be available. Please elaborate on the timing and the process for posting and implementing the reference. (7) TOP-006-1? Monitoring System Conditions Voltage and Reactive Control: Modify R4. We agree with this change.
FirstEnergy	Yes	The effective dates correctly follow the end of the implementation schedule for FAC-014.
Hydro One Networks	No	We do not agree with the elimination of EOP-001-0 R2 as the RC and TOP must work together in planning how to implement load reduction. We do not agree with retiring R3 of IRO-004-1. Where SOLs and IROLs are known at least a day prior to the current day, the RC should have enough time to "coordinate" the development of action plans required to return transmission loading to within acceptable SOLs and IROLs with its Transmission Operators and Balancing Authorities. Otherwise how does the RC know if their plan is feasible or effective? Developing "effective" plans to mitigate SOLs and IROLs are a operation planning function and therefore belong in the IRO-004-1 Reliability Coordination - Operations Planning standard. We do not agree with the retirement of IRO-005-2 R5. We agree that the RC may not be the responsible entity for SOLs violations however; it would be more prudent to modify the requirement instead of retiring it completely. Perhaps take "SOL" out of the requirement and create a new requirement having the TOP responsible for SOL violations. There is confusion on whether you want to retire or modify IRO-005-2 R13 (page 3 verses page 20). We suggest modifying R13 by separating it into two separate requirements. The first having the RC responsible for ensuring all entities operate to prevent actions in their Reliability Coordinator Area that results in IROL violations in another area of the interconnection. The second requirement to have these same entities excluding the RC, to always operate the BES to the most limiting parameter. For TOP-003, TOP-005 and TOP-006, we believe a SAR should be initiated to "clean-up" standards & requirements that may be redundant or incorrect as apposed to retiring them within an implementation plan which pertains to a different set of standards.
ISO New England Inc	No	We do not agree with all of the proposed changes. (1) EOP-001 R2: We do not agree with removing this requirement, which says: "The Transmission Operator shall have an emergency load reduction plan for all identified IROLs. The plan shall include the details on how the Transmission Operator will implement load reduction in sufficient amount and time to mitigate the IROL violation before system separation or collapse would occur. The load reduction plan must be capable of being implemented within 30 minutes." This requirement does not equate to the Transmission Operator developing plans for mitigating IROLs, which is the role of the RC. In fact, this requirement holds the TOP responsible for having the load reduction plan in place ahead of real time so that when directed by the RC, it can execute the plan to assist in mitigating the IROL violation. While the IRO-008 to IRO-010 standards give the RC the authority and the flexibility to direct the TOP to do so, having the plan in advance and be ready for execution is not covered by these IRO standards. Further, the amount and timing that the TOP is able to achieve with load reduction must be known to the RC ahead of real time for it to consider the effectiveness of the plan's execution in support of the mitigating action. (2) IRO-002 R2: We agree with retiring this requirement. (3) IRO-004-1: We agree with retiring this standard since all requirements are covered elsewhere except R4. This requirement is intended to provide system

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Organization/Group	Question 7:	Question 7 Comments:
		<p>information not just for the RC within whose area the BA, TOP, etc. reside, but also for other RCs and TOPs, TSPs for system modeling/consideration for their respective specific uses. This requirement needs to have a "home". (4) IRO-005-2: Retire R2, R3, and R5; modify R9, R13 and R14; retire R16 and R17.(a) We agree with retiring R2, R3, R5, R16 and R17, and revising R9 and R14.(b) For R13, the Implementation Plan says "retiring" but it should read "revising". We agree with the proposed revision to the part on operating to the most limiting parameter, but do not agree with retiring that part pertaining to ensuring the SOLs and IROLs are not exceeded. This part, which reads: "Each Reliability Coordinator shall ensure that all Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities operate to prevent the likelihood that a disturbance, action, or non-action in its Reliability Coordinator Area will result in a SOL or IROL violation in another area of the Interconnection." actually contains two requirements that are not covered by the new IRO-009: (a) IRO-009 deals with IROL only; the RC needs also to be aware of the SOL situation since an SOL may become an IROL as system conditions change. (b) the requirement also holds the RC responsible for ensuring that the entities within the RC area operate to prevent situations that could result in a SOL or IROL violation in another area of the Interconnection." This is not covered by the new IRO-009. We therefore suggest that R13 be retained with only the revision to remove "Reliability Coordinator and its" from the second sentence. (5) TOP-003-0: Modify R1.2. We agree with this change. (6) TOP-005-1: Retire R1 and R1.1 and convert Attachment 1 into a reference. We agree with retiring R1 ad R1.1 and the proposed conversion of Attachment 1 into a reference. (7) TOP-006-1: Modify R4. We agree with this change.</p>
American Transmission Company LLC	No	<p>Issue 1: The implementation plan states that all of IRO-004-1 will be deleted when IRO-008, 009 and 010 are approved. Requirement 7 in IRO-004-1 is not being covered in any of the proposed new standards. The SDT needs to document the justification behind the deletion of R7 in IRO-004-1 before the entire standard can be deleted. Issue 2: ATC does not agree that IRO-005-1 R2 is duplicative of IRO-010-1 R1 and R2. IRO-005-1 R2 requires monitoring but IRO-010-1 R1 and R2 are data specification requirements for study purposes. ATC believes that the RC should be required to monitor Interchange Transactions. Issue 3: Requirement 14 of IRO-005-1: The SDT has proposed to remove the language that requires the RC to provide the TSP with SOL and IROL limits. We were unable to locate any requirements in IRO-008, 009 and 010 that requires the RC to share SOL and IROL limits with the TSP. It should be the obligation of the RC to provide these limits to the TSP. IRO-002-1 R5 and R6 require the RC to monitor SOLs and FAC-014 R1 requires the RC to ensure that SOLs and IROLs are consistent with its SOL Methodology. Issue 4: ATC does not agree with the changes to TOP-005-1. Although TOP-005 Requirement 1 may be a duplicate of IRO-010, TOP-005 obligates that the RC to identify the data requirements for the "Electric System Reliability Data". TOP-005-1 requirements 2 and 3 still address the "Electric System Reliability Data" section so making it a reference document does not remove it from the mandatory realm. In addition, the RC should be required to sign the "NERC Confidentiality Agreement" identified in TOP-005-1 because the TOP, BA and PSE still have to supply the data specified by the "Electric System Reliability Data" requirements. Issue 5: TOP-006-1 R4: ATC does not agree with the Set's</p>

Organization/Group	Question 7:	Question 7 Comments:
		<p>changes to R4 in TOP-006-1. We believe that the RC should be required to purchase their own weather forecasting service. Since most utilities purchase weather forecasting services from third party vendors, which have restrictions about sharing that information, this change would require ATC to purchase and maintain a weather forecasting license for our RC. ATC believes that the above statement is true because the SDT is recommending in its implementation plan that the RC would specify in IRO-010 R1 and R2 the required weather forecasting information. If this is not the case then the SDT should provide information as to why the RC is being removed from Requirement 4 in TOP-006-1.</p>

8. If you have any other comments on this set of standards that you haven't already provided, please provide them here?

Organization/Group	Question 8 Comments:
Northeast Utilities	<p>(1) For IRO-009, the VFRs for R1 and R2 should both be HIGH. The absence of predetermined control actions that need to be made available to operation personnel to prevent and mitigate IROL being exceeded can result in failure to maintain interconnected system reliability. Operating personnel may be faced with having insufficient or no control actions to correct an IROL violation, which can lead to cascade tripping or instability. We believe this comment is consistent with our interpretation of the HIGH risk factor requirement definition (see the text on "planning time frame"):High Risk Requirement A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.(2) We do not understand the distinctions made (under the Compliance Enforcement Authority in the Compliance Monitoring Process of all 3 draft standards) between the RCs that work for the Regional Entity and those that do not. Please provide examples of those RCs that work for an RE. The latter, as a standard developer and compliance monitor per the functional model, does not have any operating and planning tasks assigned to them that require it to employ an RC. However, we do realize that there are REs that are requested by membership in the region through a contractual agreement to perform the RC function for them. In this case, it is the RE that is by contractual arrangement to operate the RC on the membership's behalf, not an employment of an RC by an RE (i.e. an RC working for an RE). If the SDT is referring to this type of set up, please revise the language accordingly.</p>
NPCC Regional Standards Committee, RSC	<p>(1) For IRO-009, the VFRs for R1 and R2 should both be HIGH. The absence of predetermined control actions that need to be made available to operation personnel to prevent and mitigate IROL being exceeded can result in failure to maintain interconnected system reliability. Operating personnel may be faced with having insufficient or no control actions to correct an IROL violation, which can lead to cascade tripping or instability. We believe this comment is consistent with our interpretation of the HIGH risk factor requirement definition (see the text on "planning time frame"):High Risk Requirement A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.(2) We do not understand the distinctions made (under the Compliance Enforcement Authority in the Compliance Monitoring Process of all 3 draft standards) between the RCs that work for the Regional Entity and those that do not. Please provide examples of</p>

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Organization/Group	Question 8 Comments:
	<p>those RCs that work for an RE. The latter, as a standard developer and compliance monitor per the functional model, does not have any operating and planning tasks assigned to them that require it to employ an RC. However, we do realize that there are REs that are requested by membership in the region through a contractual agreement to perform the RC function for them. In this case, it is the RE that is by contractual arrangement to operate the RC on the membership's behalf, not an employment of an RC by an RE (i.e. an RC working for an RE). If the SDT is referring to this type of set up, please revise the language accordingly.</p>
<p>Hydro-Quebec TransEnergie</p>	<p>(1) For IRO-009, the VFRs for R1 and R2 should both be HIGH. The absence of predetermined control actions that need to be made available to operation personnel to prevent and mitigate IROL being exceeded can result in failure to maintain interconnected system reliability. Operating personnel may be faced with having insufficient or no control actions to correct an IROL violation, which can lead to cascade tripping or instability. We believe this comment is consistent with our interpretation of the HIGH risk factor requirement definition (see the text on "planning time frame"):High Risk Requirement A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.(2) We do not understand the distinctions made (under the Compliance Enforcement Authority in the Compliance Monitoring Process of all 3 draft standards) between the RCs that work for the Regional Entity and those that do not. Please provide examples of those RCs that work for an RE. The latter, as a standard developer and compliance monitor per the functional model, does not have any operating and planning tasks assigned to them that require it to employ an RC. However, we do realize that there are REs that are requested by membership in the region through a contractual agreement to perform the RC function for them. In this case, it is the RE that is by contractual arrangement to operate the RC on the membership's behalf, not an employment of an RC by an RE (i.e. an RC working for an RE). If the SDT is referring to this type of set up, please revise the language accordingly.</p>
<p>Entergy Services</p>	
<p>RCCWG - reliability coordinator comments working group</p>	<p>RSAWS need to be developed in parallel with standard revisions to they maintain the intention of the standard for the audit team.</p>
<p>Manitoba Hydro</p>	<p>There needs to be coordination between IRO-010-1, TOP-005-0 Attachment 1, and VAR-002-1. Is it the intention of IRO-010-1 to ensure the RC has real-time data to monitor the state of the bulk electric system? TOP-005-0 Attachment 1 which is to become a Technical Reference states "1. The following information shall be updated at least every 10 minutes." VAR-002-1 R3 states "Each Generator Operator shall notify its associated Transmission Operator as soon as practical, but within 30 minutes of any of the following: R3.1. A</p>

Organization/Group	Question 8 Comments:
	<p>status or capability change on any generator Reactive Power resource, including the status of each automatic voltage regulator and power system stabilizer and the expected duration of the change in status or capability.R3.2. A status or capability change on any other Reactive Power resources under the Generator Operator's control and the expected duration of the change in status or capability." This does not give the impression that real time status is required. For BES reliability, we ultimately think there should be real-time status from the AVR, PSS or SPS into the entity's Control Centre EMS and simultaneously through an ICCP link to the RC EMS. This approach would be the most robust with the least amount of chance of a communication break down attributed to human error. For an entity with over 100 generators, a project to bring real time AVR, PSS and SPS status into the Control Centre EMS and transfer the data via ICCP to the RC EMS would be very time consuming and costly. We would suggest a period of grace (dependent on number of RTU points required (up to several years)) for entities to reach this goal. During this grace period we suggest that knowledge of AVR, PSS, and SPS status by default is sufficient. In other words the device is considered "in service/on auto" unless the system operator is notified differently. The system operator manually toggles into SCADA the status of the device. The device's status change is communicated to the RC "without delay" either electronically or verbally. The device status in the RC EMS would be updated at this time. Both the entity's and the RC's EMS Real Time Contingency Analyses would be utilizing the latest known AVR, PSS and SPS status. As I see it, this approach, if agreed to by the RC, would satisfy IRO-010-1 R1 - R1.3 and R1 Violation Severity Levels "Lower" through to "Severe".</p>
<p>Operating Reliability Working Group</p>	<p>The Applicability section of IRO-009-1 includes more than a list of entities to which the standard applies. In this situation, a 'what' the standard applies to be included. We've never seen this before and question it's applicability in this case. Add parenthesis around the phrase 'up to and including load shedding' in R1 of IRO-009-1. The same phrase already exists in R2 in parenthesis. In the Compliance Section D, Item 1.4 Data Retention of IRO-010-1 the third paragraph states that the BA, GO, GOP, LSE, RC, TOP and TO shall keep evidence used to show compliance with R3 and M3. How much evidence is required? Prior versions of IRO-010 indicated that 3 months of evidence would be sufficient. Not including a specific reference leaves the standard vague. A specific reference should be included. We suggest returning to the 3 month requirement. Also in this same Item 1.4 the phrase "in advance of real-time" shows up. If it was replaced in IRO-009-1, it should also be replaced here as well.</p>
<p>SERC OC Standards Review Group - IROL Standards, IRO-008-1, 009-1, 010-1</p>	<p>We feel that the Implementation Plan should not set different implementation dates for jurisdictional and non-jurisdictional entities. This puts an additional burden on Reliability Coordinators to resolve problems involving entities subject to different standards. Our recommendation is that the standard should become effective on the latter of either April 1, 2009 or the first day of the first calendar quarter, three months after applicable regulatory approval. One concern certain members have involves data retention requirements for IRO-10-1 at R3 and M3 when a system is part of an ISO or RTO and is required by its Reliability Coordinator to input its data into the ISO or RTO business system. For instance, a Reliability Coordinator may require generator operators to periodically update generator operating limits in support of R1-R3 citing two (2) horizons for such entries: (1) the</p>

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Organization/Group	Question 8 Comments:
	day prior to the operating day and (2) as changes occur in real time. Members agree with the requirements, however data is manually entered into the business system and the member does not have the ability to retain the data or verify that it was entered. Given that the requirements call for the Reliability Coordinator to be provided the data, the measures should require that the RC retain the data provided.
San Diego Gas and Electric Co.	
Ontario IESO	(1) For IRO-009, the VFRs for R1 and R2 should both be HIGH. The absence of predetermined control actions that need to be made available to operation personnel to prevent and mitigate IROL being exceeded can result in failure to maintain interconnected system reliability. Operating personnel may be faced with having insufficient or no control actions to correct an IROL violation, which can lead to cascade tripping or instability. We believe this comment is consistent with our interpretation of the HIGH risk factor requirement definition (see the text on "planning time frame"):High Risk Requirement A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.(2) We do not understand the distinctions made (under the Compliance Enforcement Authority in the Compliance Monitoring Process of all 3 draft standards) between the RCs that work for the Regional Entity and those that do not. Please provide examples of those RCs that work for an RE. The latter, as a standard developer and compliance monitor per the functional model, does not have any operating and planning tasks assigned to them that require it to employ an RC. However, we do realize that there are REs that are requested by membership in the region through a contractual agreement to perform the RC function for them. In this case, it is the RE that is by contractual arrangement to operate the RC on the membership's behalf, not an employment of an RC by an RE (i.e. an RC working for an RE). If the SDT is referring to this type of set up, please revise the language accordingly. (3) For R2/M2 of IRO-008, it is not possible to keep records of 30 minute IROL analysis for 30 days. Such time-logged analysis which are probably the only evidence of 30 minute analysis and these can only be located on the security analysis software and we do not believe that such software have the capability of keeping such extended records. We believe that the evidence retention for R2/M2 should be a couple of days at the most. in other words, the previous documentation retention requirement for this requirement should be retained.
ISO RTO Council Standards Review Committee	(1) For IRO-009, the VFRs for R1 and R2 should both be HIGH. The absence of predetermined control actions that need to be made available to operation personnel to prevent and mitigate IROL being exceeded can result in failure to maintain interconnected system reliability. Operating personnel may be faced with having insufficient or no control actions to correct an IROL violation, which can lead to cascade tripping or instability. We believe this comment is consistent with our interpretation of the HIGH risk factor requirement definition (see the text on

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	<p>"planning time frame"):High Risk Requirement A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.(2) We do not understand the distinctions made (under the Compliance Enforcement Authority in the Compliance Monitoring Process of all 3 draft standards) between the RCs that work for the Regional Entity and those that do not. Please provide examples of those RCs that work for an RE. The latter, as a standard developer and compliance monitor per the functional model, does not have any operating and planning tasks assigned to them that require it to employ an RC. However, we do realize that there are REs that are requested by membership in the region through a contractual agreement to perform the RC function for them. In this case, it is the RE that is by contractual arrangement to operate the RC on the membership's behalf, not an employment of an RC by an RE (i.e. an RC working for an RE). If the SDT is referring to this type of set up, please revise the language accordingly.</p>
FirstEnergy	<p>FE has the following additional comments and suggestions: (1) IRO-010 - Requirement R1 - Remove the word "data" between documented and specification to improve clarity and readability. (2) The last sentence of R3 contains a phrase that was previously proposed to be a new term in IRO-007-1, but is now being deleted. If this intended to be retained as a new definitional term within the Glossary it will need to be added to IRO-010.When revised R1.1 and R3 should read as follows: (3) IRO-010 - Presumably the last sentence of R3 is designed to limit the data that the Reliability Coordinator may request from the various responsible entities listed. However, in its current state, the requirement seems to limit what the affected entities can provide. We suggest that it may be clearer to remove the last sentence of R3 and append it to the existing R1.1 requirement. The new R1.1 and R3 are proposed as follows:"R1.1. List of required data and information. The data and information is limited to data needed by the Reliability Coordinator to support Real-Time Monitoring, Operational Planning Analyses, and Real-Time Assessments.""R3. Each Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-serving Entity, Reliability Coordinator, Transmission Operator, and Transmission Owner shall provide data and information, as specified by R1 above, to the Reliability Coordinator(s) with which it has a reliability relationship."(4) With regard to Attachment 1 of TOP-005-2, this information in this attachment is to be transferred to a "Reference" document. However, it is not clear when this reference document is to be developed since a draft of this proposed reference is not available for comment. We suggest this reference document be developed and posted along with these new IROL standards so that it is all completed at the same time. The reference document will be a valuable tool to be used in conjunction with the standards and should be developed in conjunction with these standards.(5) In some of the revised standards, references to previous IROL requirements have been removed as they are now covered in the proposed IRO standards. In some cases, these revisions have led to entire requirements being deleted. It is brought to the attention of the SDT</p>

Organization/Group	Question 8 Comments:
	<p>that requirement re-numbering was not correctly shown in the red-line standards provided for review and will need to be corrected in final changes. (e.g. EOP-001, TOP-005, etc.)(6) In IRO-009-1 the Applicability section contains 4.2 stating "The IROLs covered in this standard are limited to those associated with contingencies studied under FAC-011 and FAC-014." The NERC Standard Development Procedure indicates that the Applicability Section is intended to describe the 1) entities responsible for complying with the standard and 2) if needed, the portion of the bulk power system for which the standard is applicable. The 4.2 item may introduce an unintended use of the Applicability section and it may be better to move this item to a new requirement R1 in the standard worded as follows:"R1 Each Reliability Coordinator shall manage its current day system against IROL conditions identified in a manner consistent with the requirements of standards FAC-011 and FAC-014."</p>
Hydro One Networks	<p>We believe a SAR should be initiated to "clean-up" standards & requirements that may be redundant or incorrect as apposed to retiring them within an implementation plan which pertains to a different set of standards. As well, for IRO-009, the VRFs for R1 and R2 should both be High.</p>
ISO New England Inc	
American Transmission Company LLC	<p>Operational Planning Analysis (Definition): The phrase "next day's operation and up to 12 months ahead" (See definition of Operational Planning Analysis) is too broad when used in the context of requirement 1. The definition should be broken into two independent definitions one to address the "next day study" and a second to address the "up to 12 months study". Requirement 1 states that the RC has to perform an Operational Planning Analysis which, we have identified above, means "next day and up to 12 months" for the next operating day. By including the "up to 12 months" in the definition we believe that for every next day study the RC has to perform two independent studies. 1) One for the next day and 2) One for some other day that is up to 12 months It is for this reason that we suggest that the definition be broken into two distinct terms.IRO-008-1: ATC believe that IRO-008-1 R1 and R2 should be expanded to include SOLs in the Operational Planning Analysis and Real-Time Assessment. IRO-009-1The applicability section of that standard is to be used to identify the functional entity that must comply with the standard. The SDT is using this section to place an exception on the requirements. Any exception should be identified in the requirements. (Solution could be with a footnote) Standard IRO-009-1 needs two additional requirements: 1) Require the RC has to coordinate their plans with entities that are expected to perform an action in the plan. 2) Distribute and share those plans with entities that are expected to perform an action. R3 ATC is concern that compliance is based on following the plan and what is more important is if the RC prevented the IROL from exceeding the Tv. The requirement should specify that the RC prevents the IROL not that they follow their plan. IRO-010-1 Data Retention rule A more specific data retention period should be established. The current language would require ATC to keep data anywhere from one month to seven years or more. "For data that is requested in advance of real-time the TOP shall keep evidence used to show compliance with R3 for the RC's most recent data specifications." (If the RC updated their data specifications once every seven years all entities must retain their data for seven years.) General Comment: ATC suggest that this SDT work closely with the Reliability Coordinator SDT in order to ensure a comprehensive set of standards.</p>

