

Standard Development Roadmap

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed:

1. SC authorized the SAR and assembled a drafting team on December 5, 2006.
2. The revisions to IRO-006 to transfer business practice content to NAESB were approved as IRO-006-4 by the Board of Trustees on October 23, 2007.
3. The SDT developed a first draft for industry consideration and posted it for comments from October 30, 2008 to December 1, 2008.
4. The SDT developed a second draft for industry consideration and posted it for comments from October 30, 2008 to December 1, 2008.
5. The SDT developed a third draft for industry consideration and posted it for comments from July 13, 2009 to August 13, 2009.
6. The SDT has developed this fourth draft for industry consideration.

Description of Current Draft:

This is the fourth draft of the proposed standard posted for stakeholder comments.

Future Development Plan:

Anticipated Actions	Anticipated Date
Posting for Comment (Draft 4).	October 30, 2009
Respond to Comments (Draft 4).	January 8, 2010
Posting for 30-day Pre-Ballot Review.	January 8, 2010
Initial Ballot.	February 7, 2010
Respond to comments.	March 31, 2010
Recirculation ballot.	March 31, 2010
Board adoption.	May 2010

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these defined terms will be removed from the individual standard and added to the Glossary.

~~**Reallocation:** The total or partial curtailment of Transactions during TLR Level 3a or 5a to allow Transactions using higher priority to be implemented.~~ (To be retired.)

Market Flow: the total amount of [power](#) flowing across a specified Facility or set of Facilities due to a market dispatch of internal generation to serve internal load.

A. Introduction

1. **Title: Transmission Loading Relief Procedure for the Eastern Interconnection**
2. **Number:** IRO-006-EAST-1
3. **Purpose:** To provide an Interconnection-wide transmission loading relief procedure (TLR) for the Eastern Interconnection that can be used to prevent and/or mitigate potential or actual System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances to maintain reliability of the Bulk Electric System (BES).
4. **Applicability:**
 - 4.1. Initiating Reliability Coordinators in the Eastern Interconnection.
 - 4.2. Responding Reliability Coordinators
5. **Proposed Effective Date:** First day of the first calendar quarter following the date this standard is approved by applicable regulatory authorities, or in those jurisdictions where regulatory approval is not required, the standard becomes effective on the first day of the first calendar quarter after the date this standard is approved by the NERC Board of Trustees.

B. Requirements

- R1. When acting or ~~directing~~ instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's T_v , each Reliability Coordinator shall initiate, prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated), one or more of the following actions: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
 - Inter-area redispatch
 - Intra-area redispatch of generation
 - Reconfiguration of the transmission system
 - Voluntary load reductions (e.g., Demand-side Management)
 - Involuntary load reductions
- R2. When initiating the Eastern Interconnection TLR procedure to prevent or mitigate an SOL or IROL exceedance, and at least every clock hour after initiation up to and including the hour when the TLR level has been identified as TLR Level 0, the Reliability Coordinator shall identify: [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]
 - 2.1. The TLR level (~~TLR levels are listed in Appendix A~~) as listed below in Table 1, and
 - 2.2. A list of congestion management actions to be implemented based on the TLR level chosen.

<u>TABLE 1 – TLR LEVELS¹</u>	
<u>Level</u>	<u>Examples of Possible System Conditions</u>
<u>TLR-1</u>	<ul style="list-style-type: none"> • <u>At least one Transmission Facility is expected to approach or exceed its SOL or IROL within 8 hours.</u>
<u>TLR-2</u>	<ul style="list-style-type: none"> • <u>At least one Transmission Facility is approaching or is at its SOL or IROL.</u> <ul style="list-style-type: none"> ○ <u>Analysis shows that holding new and increasing non-firm Interchange Transactions and energy flows for the next hour can prevent exceeding this SOL or IROL.</u>
<u>TLR-3a</u>	<ul style="list-style-type: none"> • <u>At least one Transmission Facility is expected to exceed its SOL or IROL within the next hour.</u> <ul style="list-style-type: none"> ○ <u>Analysis shows that full or partial curtailment or reallocation² of non-firm Interchange Transactions and energy flows can prevent exceeding this SOL and IROL.</u>
<u>TLR-3b</u>	<ul style="list-style-type: none"> • <u>At least one Transmission Facility is exceeding its SOL or IROL, or</u> • <u>At least one Transmission Facility is expected to exceed its SOL or IROL within the current hour.</u> <ul style="list-style-type: none"> ○ <u>Analysis shows that full or partial curtailment or reallocation³ of non-firm Interchange Transactions and energy flows can prevent exceeding this SOL or IROLs.</u>
<u>TLR-4</u>	<ul style="list-style-type: none"> • <u>At least one Transmission Facility is expected to exceed its SOL or IROL.</u> <ul style="list-style-type: none"> ○ <u>Analysis shows that full curtailment of non-firm Interchange Transactions and energy flows, or reconfiguration of the transmission system can prevent exceeding this SOL or IROL.</u>
<u>TLR-5a</u>	<ul style="list-style-type: none"> • <u>At least one Transmission Facility is expected to exceed its SOL or IROL within the next hour.</u> <ul style="list-style-type: none"> ○ <u>Analysis shows that the following actions can prevent exceeding the SOL or IROL:</u> <ul style="list-style-type: none"> • <u>Full curtailment non-firm Interchange Transactions and energy flows, and</u> • <u>Reconfiguration of the transmission system, if possible, and</u> • <u>Full or partial curtailment or reallocation⁴ of firm Interchange Transactions and energy flows.</u>
<u>TLR-5b</u>	<ul style="list-style-type: none"> • <u>At least one Transmission Facility is exceeding its SOL or IROL, or</u> • <u>At least one Transmission Facility is expected to exceed its SOL or IROL within the current hour.</u> <ul style="list-style-type: none"> ○ <u>Analysis shows that the following actions can prevent exceeding the SOL or IROL:</u> <ul style="list-style-type: none"> ▪ <u>Full curtailment of non-firm Interchange Transactions and energy flows, and</u> ▪ <u>Reconfiguration of the transmission system, if possible, and</u> ▪ <u>Full or partial curtailment or reallocation⁵ of firm Interchange Transactions and energy flows.</u>
<u>TLR-6</u>	<ul style="list-style-type: none"> • <u>At least one Transmission Facility is exceeding its SOL or IROL, or</u> • <u>At least one Transmission Facility is expected to exceed its SOL or IROL upon the removal from service of a generating unit or another transmission facility.</u>
<u>TLR-0</u>	<ul style="list-style-type: none"> • <u>No transmission facilities are expected to approach or exceed their SOL or IROL within 8 hours, and the ICM procedure may be terminated</u>

R3. Upon the identification of the TLR level and a list of congestion management actions to be implemented based on the TLR level chosen, the Reliability Coordinator initiating this TLR procedure shall: [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]

3.1. Notify all Reliability Coordinators in the Eastern Interconnection of the identified TLR level

¹ The listed system conditions examples are intended to assist the Reliability Coordinator in determining what level of TLR to call. The Reliability Coordinator has the discretion to choose any of these levels regardless of the examples listed, provided the Reliability Coordinator has reliability reasons to take such action. TLR levels are neither required nor expected to be issued in numerical order of level.

^{2,3,4,5} “Reallocation” is a term defined within the NAESB TLR standards.

- 3.2. Communicate the list of congestion management actions to be implemented to
- 1.) ~~all~~ All Reliability Coordinators in the Eastern Interconnection, and
 - 2.) ~~those~~ Those Reliability Coordinators in other Interconnections responsible for curtailing Interchange Transactions crossing Interconnection boundaries identified in the list of congestion management actions.
- 3.3. Request that the congestion management actions identified in Requirement R2, Part 2.2 be implemented by
- 1.) ~~e~~ Each Reliability Coordinator associated with a Sink Balancing Authority for which Interchange Transactions are to be curtailed,
 - 2.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which Network Integration Transmission Service or Native Load is to be curtailed, and
 - 3.) Each Reliability Coordinator associated with a Balancing Authority in the Eastern Interconnection for which its Market Flow is to be curtailed
- R4. Each Reliability Coordinator that receives a request as described in Requirement R3, Part 3.3. shall within 15 minutes of receiving the request comply with the request by taking one or both of the following actions: [*Violation Risk Factor: High*] [*Time Horizon: Real-time Operations*]
- Implement the communicated congestion management actions requested by the issuing Reliability Coordinator as follows:
 - ~~Instruct~~ Direct its Balancing Authorities to implement the Interchange Transaction schedule change requests.
 - ~~Direct~~ Instruct its Balancing Authorities to ~~provide~~ implement the Network Integration ~~ed~~ Transmission Service and Native Load schedule changes for which the Balancing Authorities are responsible.
 - ~~Direct~~ Instruct its Balancing Authorities to ~~provide~~ implement the Market Flow schedule changes for which the Balancing Authorities are responsible.
 - Instruct ~~i~~ Implementation of alternate congestion management actions to those communicated in R3, provided that:
 - ~~Assessment~~ analysis shows ~~determines~~ that some or all of the congestion management actions communicated in Requirement R3, Part 3.3 will result in a reliability concern or will be ineffective, and
 - The alternate congestion management actions have been agreed to by the initiating Reliability Coordinator, and
 - ~~Analysis~~ Assessment shows that the alternate congestion management actions will not adversely affect reliability.

~~Each Reliability Coordinator that responds to a TLR event shall acknowledge to the initiating Reliability Coordinator the actions it will take pursuant to Requirement R4 as soon as possible but not more than ten minutes of receiving the request. [*Violation Risk Factor: Medium*] [*Time Horizon: Real-time Operations*]~~

C. Measures

- M1.** Each Reliability Coordinator shall provide evidence (such as logs, voice recordings, or other information) that when acting or ~~directing~~ instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's Tv, the Coordinator initiated one or more of the actions listed in R1 prior to or concurrently with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated)(R1).
- M2.** Each Reliability Coordinator shall provide evidence (such as logs, voice recordings, or other information) that at the time it initiated the Eastern Interconnection TLR procedure, and at least every clock hour after initiation up to and including the hour when the TLR level was identified as TLR Level 0, the Reliability Coordinator identified both the TLR Level and a list of congestion management actions to be implemented based on the TLR level chosen (R2).
- M3.** Each Reliability Coordinator shall provide evidence (such as logs, voice recordings, or other information) that after it identified a TLR level and a list of congestion management actions to take, it 1.) notified all Reliability Coordinators in the Eastern Interconnection of the TLR Level, 2.) communicated the list of actions to all Reliability Coordinators in the Eastern Interconnection and those Reliability Coordinators in other Interconnections responsible for curtailing Interchange Transactions crossing Interconnection boundaries identified in the list of congestion management actions, and 3.) requested the Reliability Coordinators identified in Requirement R3, Part 3.2 to implement the congestion management actions identified in Requirement R2, Part 2.2 (R3).
- M4.** Each Reliability Coordinator shall provide evidence (such as logs, voice recordings, or other information) that within fifteen minutes of the~~upon~~ receipt of a request as described in R3, the Reliability Coordinator complied with the request by taking one or both of the following: 1.) implemented the communicated congestion management actions requested by the issuing Reliability Coordinator, or 2.) implemented alternate congestion management actions based on ~~assessment~~ analysis which showed that some or all of the congestion management actions communicated in R3 would have resulted in a reliability concern or would have been ineffective, the alternate congestion management actions were agreed to by the initiating Reliability Coordinator, and ~~assessment~~ analysis showed that the alternate congestion management actions would not adversely affect reliability (R4).
- ~~**M5.** Each Reliability Coordinator shall provide evidence (such as logs, voice recordings, or other information) that within ten minutes of receiving a request to implement flow reduction actions pursuant to the implementation of the Eastern Interconnection TLR procedure, it acknowledged to the initiating Reliability Coordinator the flow reduction actions it will take in response to their request.~~

D. Compliance

1. Compliance Monitoring Process

- 1.1.** Compliance Enforcement Authority
Regional Entity.
- 1.2.** Compliance Monitoring Period and Reset Time Frame
Not applicable.
- 1.3.** Data Retention

The Reliability Coordinator shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

- The Reliability Coordinator shall maintain evidence to show compliance with R1, R2, R3, ~~R4~~, and ~~R5~~-R4 for the past 12 months plus the current month.
- If a Reliability Coordinator is found non-compliant, it shall keep information related to the non-compliance until found compliant.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

1.4. Compliance Monitoring and Enforcement Processes:

1. The following processes may be used:

- Compliance Audits
- Self-Certifications
- Spot Checking
- Compliance Violation Investigations
- Self-Reporting
- Complaints

1.5. Additional Compliance Information

None.

3. Violation Severity Levels

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1				When acting or directing -instructing others to act to mitigate the magnitude and duration of the instance of exceeding an IROL within that IROL's T _v , the Reliability Coordinator did not initiate one or more of the actions listed under R1 prior to or in conjunction with the initiation of the Eastern Interconnection TLR procedure (or continuing management of this procedure if already initiated).
R2	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take based on the TLR level chosen for one clock hour during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take based on the TLR level chosen for two clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0,	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take based on the TLR level chosen for three clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.	The Reliability Coordinator initiating the Eastern Interconnection TLR procedure missed identifying the TLR Level and/or a list of congestion management actions to take based on the TLR level chosen for four or more clock hours during the period from initiation up to the hour when the TLR level was identified as TLR Level 0.
R3	The initiating Reliability Coordinator did not notify one or more Reliability Coordinators in the Eastern Interconnection of the TLR Level (3.1).	N/A	The initiating Reliability Coordinator did not communicate the list of congestion management actions to one or more of the Reliability Coordinators listed in Requirement R3, Part 3.2. OR	The initiating Reliability Coordinator requested none of the Reliability Coordinators identified in Requirement R3, Part 3.3 to implement the identified congestion management actions.

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
			<p>The initiating Reliability Coordinator requested some, but not all, of the Reliability Coordinators identified in Requirement R3, Part 3.3 to implement the identified congestion management actions.</p>	
R4				<p>The responding Reliability Coordinator did not take one or both of the following actions <u>within 15 minutes of receiving a request</u>:</p> <ol style="list-style-type: none"> 1.) Implemented the requested congestion management actions. 2.) Implemented alternate congestion management actions based on analysis <u>assessment</u> which showed that some or all of the actions communicated in Requirement R3, Part 3.3 -would have resulted in a reliability concern or would have been ineffective, and that the alternate congestion management actions were agreed to by the initiating Reliability Coordinator and analysis <u>assessment</u> showed <u>determined</u> that the alternate congestion management actions would not adversely affect reliability.
R5	<p>The responding Reliability Coordinator communicated its <u>flow reduction</u> actions taken to the initiating Reliability Coordinator, but did so more than ten minutes but not more than <u>less than or equal to fifteen 15</u> minutes after receiving the</p>	<p>The responding Reliability Coordinator communicated its <u>flow reduction</u> actions taken to the initiating Reliability Coordinator, but did so more than fifteen <u>15</u> minutes but not more than <u>less than or equal to twenty 20</u> minutes after receiving</p>	<p>The responding Reliability Coordinator communicated its <u>flow reduction</u> actions taken to the initiating Reliability Coordinator, but did so more than twenty <u>20</u> minutes but not more than <u>less than or equal to twenty five 25</u> minutes after</p>	<p>The responding Reliability Coordinator communicated its <u>flow reduction</u> actions to the initiating Reliability Coordinator, but did so more than twenty five <u>25</u> minutes after receiving the request.</p>

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
	request.	the request.	receiving the request.	<p>OR</p> <p>The responding Reliability Coordinator did not communicate its actions to the initiating Reliability Coordinator.</p>

E. Regional Variances

None.

F. Associated Documents

G. Revision History

Version	Date	Action	Tracking
1		Creation of new standard, incorporating concepts from IRO-006-4 Attachment; elimination of Regional Differences, as the standard allows the use of Market Flow	New

Appendix A

The following criteria guidelines are intended to assist the Reliability Coordinator in determining what level of TLR to call. However, the Reliability Coordinator has the discretion to choose any of these levels regardless of the criteria guidelines listed below, provided the Reliability Coordinator has reliability reasons to take such action. TLR levels are neither required nor expected to be issued in numerical order of level.

Level	Guidelines for System Conditions
TLR-1	<ul style="list-style-type: none"> • At least one Transmission Facility is expected to approach or exceed its SOL or IROL within 8 hours.
TLR-2	<ul style="list-style-type: none"> • At least one Transmission Facility is approaching or is at its SOL or IROL. <ul style="list-style-type: none"> ○ Analysis shows that holding new and increasing non-firm <u>Interchange Transactions</u> and energy flows for the next hour can prevent exceeding this SOL or IROL.
TLR-3a	<ul style="list-style-type: none"> • At least one Transmission Facility is expected to exceed its SOL or IROL within the next hour. <ul style="list-style-type: none"> ○ Analysis shows that full or partial curtailment or reallocation³ of non-firm <u>Interchange Transactions</u> and energy flows can prevent exceeding this SOL and IROL.
TLR-3b	<ul style="list-style-type: none"> • At least one Transmission Facility is exceeding its SOL or IROL, or • At least one Transmission Facility is expected to exceed its SOL or IROL within the current hour. <ul style="list-style-type: none"> ○ Analysis shows that full or partial curtailment or reallocation⁴ of non-firm <u>Interchange Transactions</u> and energy flows can prevent exceeding this SOL or IROLs.
TLR-4	<ul style="list-style-type: none"> 1) At least one Transmission Facility is expected to exceed its SOL or IROL. <ul style="list-style-type: none"> ○ Analysis shows that full curtailment of non-firm transactions <u>Interchange Transactions</u> and energy flows, or reconfiguration of the transmission system can prevent exceeding this SOL or IROL.
TLR-5a	<ul style="list-style-type: none"> • At least one Transmission Facility is expected to exceed its SOL or IROL when <u>within</u> the next hour's transactions start. <ul style="list-style-type: none"> ○ Analysis shows that either of the following sets of actions can prevent exceeding the SOL or IROL: <ul style="list-style-type: none"> • Full curtailment non-firm <u>Interchange Transactions</u> and energy flows, <u>and/or</u> <u>R</u>Reconfiguration of the transmission system, <u>if</u>

³ "Reallocation" is a term defined within the NAESB TLR standards.

⁴ "Reallocation" is a term defined within the NAESB TLR standards.

	<p>possible, and, and f</p> <ul style="list-style-type: none"> • Full or partial curtailment or reallocation⁵ of firm transactions <u>Interchange Transactions and energy flows.</u>
TLR-5b	<ul style="list-style-type: none"> • At least one Transmission Facility is exceeding its SOL or IROL, or • At least one Transmission Facility is expected to exceed its SOL or IROL within the current hour: <ul style="list-style-type: none"> ◦ Analysis shows that either of the following sets of actions can prevent exceeding the SOL or IROL: <ul style="list-style-type: none"> ▪ Full curtailment of non firm transactions <u>Interchange Transactions and energy flows, or and</u> Reconfiguration of the transmission system, <u>if possible, and</u> ▪ and fFull or partial curtailment or reallocation⁶ of firm transactions <u>Interchange Transactions and energy flows.</u>
TLR-6	<p>At least one Transmission Facility is exceeding its SOL or IROL, or</p> <ul style="list-style-type: none"> • At least one Transmission Facility is expected to exceed its SOL or IROL upon the removal from service of a generating unit or another <u>transmission facility.</u>
TLR-0	<ul style="list-style-type: none"> • No transmission facilities are expected to approach or exceed their SOL or IROL within 8 hours, and the ICM procedure may be terminated

⁵ “Reallocation” is a term defined within the NAESB TLR standards.

⁶ [“Reallocation” is a term defined within the NAESB TLR standards.](#)