

## Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

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## Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

### 1. The draft standard uses the term ‘data’ to allow for real, state-estimated or other calculated values. Do you agree?

#### Summary Consideration:

A clearer definition of the term “Data” is required. The revised standard reflects the adoption of the definition offered by George Bartlett with enhancements suggested by other commenters.

#### New Definition of Real-time Data:

Real-time measured values, state estimator values derived from the measured values, or other calculated values derived from the measured values – may include directly monitored data, Inter-utility data exchange (e.g., Interconnection Control Area Communication Protocol and or SCADA Data), and manually collected data

Roman Carter So Co Gen 3,5,6 (6 members)	No It is recommended that “data” mean something specific vs. a “very general” reference to items. Being more specific would provide for us to give a more definitive answer on whether we agree or not.
The revised standard includes more specificity in indicating what type of data is being addressed. (Data to be collected is either for real time monitoring, operational planning analyses or real time assessments.) The requirements for specifying and providing data assign the reliability authority the responsibility for clearly specifying what data it needs. This standard will not include a specification of what data must be exchanged.	
ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2	No ‘data’ should include real-time, state estimated, calculated or manually monitored values. It should allow a Reliability Coordinator/Transmission Operator/Generator to station an individual at a plant or substation to directly monitor values.
The recommended changes were adopted and are reflected in the revised definition.	
Lee Xanthakos SCE&G #1	No “data” is a subjective term that should be better defined
The term has been revised to reflect the consensus of the suggestions submitted.	
Raj Rana AEP #1,3,5,6	No “Data” should also include manually monitored values. That is the standard should allow a Reliability Coordinator/Transmission Operator/Generator to station an individual at a plant or substation to directly monitor values.
The recommended change was adopted and is reflected in the revised definition.	
George Bartlett Entergy Svcs 1	No The Standard should differentiate between real-time data and modeling data. We suggest the definition of “Real-time Data” should be “real-time measured values, state estimator values derived from the measured values, or other calculated values derived from the measured values”. “Modeling Data” should be values characteristic of the facilities modeled to determine or estimate the power system performance.
The standard has been revised to reflect the suggested distinction between real time data and modeling data. The suggestions for changes to real time data have been adopted. The term, ‘modeling data’ is not used in the revised standard. Where reference is made to data to support models, more clarity has been provided by listing the types of models.	
Francis Halpin BPA Bus Line #5,6	No The term ‘data’ as it applies to this standard should only be applicable to ‘real

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	<p>time' or 'actual metered' data.</p> <p>The term "actual" should be removed from the sentence reading "actual real time data associated with those limits". ACTUAL implies REAL and "real" data is only one of the several types of data which are being defined in the footnote as being included as "real time data". Suggestion: Simply use the phrase "real time data". That would make it easier to accept the definition of "data" described in footnote 2 as being "real, state estimated or other...etc".</p>
<p>There is also a need to address data that is collected to build models needed for real time monitoring, operational planning analyses and real time assessments.</p> <p>Your suggestion that the term, 'actual' be removed from the standard was adopted and is reflected in the revised standard.</p>	
<p>Doug Hills Mark Peter Cinergy #1</p>	<p>No</p> <p>"Data" should include manually entered values inputed from information received from person stationed at the site to monitor equipment.</p>
<p>The recommended change was adopted and is reflected in the revised definition.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No</p> <p>It is difficult to assess compliance if you are not specific in the intent. For each specific data type a clear requirement needs to be identified. Data types may include real, state-estimated, modeling or other types of data. Another point that needs to be considered is the accuracy and frequency of telemetered data.</p>
<p>The revised standard includes more specificity in indicating what type of data is being addressed. (Data to be collected is either for real time monitoring, operational planning analyses or real time assessments.) The requirements for specifying and providing data assign the reliability authority the responsibility for clearly specifying what data it needs. This standard will not include a specification of what data must be exchanged. Several commenters indicated that since real data may include manually collected data, the revised standard does not focus on accuracy and frequency of telemetered data.</p>	
<p>Compliance Sub Compl Mgrs</p>	<p>Varying interpretations occur if the term "real" is used in the Standards. Each time the term is used, the "writer" should consider explaining the meaning of the term.</p> <p>The term data should be explicitly defined. In the example above, the writer refers to real data, state-estimated data, and calculated data. State estimated data, calculated data, manually input data, etc. are also real.</p> <p>Consideration should be given to establishing a minimum performance or accuracy and frequency of update criteria for the calculated values and accuracy and frequency criteria of telemetered data values.</p>
<p>The revised standard includes more specificity in indicating what type of data is being addressed. (Data to be collected is either for real time monitoring, operational planning analyses or real time assessments.) The requirements for specifying and providing data assign the reliability authority the responsibility for clearly specifying what data it needs. This standard will not include a specification of what data must be exchanged. Several commenters indicated that since real data may include manually collected data, the revised standard does not focus on accuracy and frequency of telemetered data.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>Yes/No</p> <p>Need to further define what real data means.</p>
<p>The term, 'real data' has is not used in the revised standard. The term, real-time data has been revised to reflect the suggestions of commenters.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>Yes</p> <p>However, we question why the non-compliance levels for the first two requirements require actual data. You should be able to use state estimated or other calculated values as appropriate.</p>
<p>The standard has been revised to better align the requirements and measures with the definitions.</p>	

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William Smith Allegheny Pwr #1	Yes "Real" should include manually monitored values.
The recommended change was adopted and is reflected in the revised definition.	
Toni Timberman BPA #1	Yes Define 'real'
The word, 'real' is not used in isolation, it is used as a qualifier for 'data'. The definition of real time data has been updated based on the consensus of the comments submitted.	
Vern Colbert Dominion #1	Yes Data should be defined
The word, 'data' does mean different things in different parts of the standard. The revisions to the standard added more details so that the type of data being addressed should be clear wherever the word is used.	
Robert Reed TS (See List) Susan Morris SERC #2 Thomas Pruitt Duke #1	Yes 1) The TS agrees with the term "data" used, but it should be explicitly defined and quantified. 2) Consideration should be given to establishing a minimum performance or accuracy and frequency criteria for the "calculated values" and accuracy and frequency criteria of telemetered data values.
The revised standard includes more specificity in indicating what type of data is being addressed. (Data to be collected is either for real time monitoring, operational planning analyses or real time assessments.) The requirements for specifying and providing data assign the reliability authority the responsibility for clearly specifying what data it needs. This standard will not include a specification of what data must be exchanged. Several commenters indicated that since real data may include manually collected data, the revised standard does not focus on accuracy and frequency of telemetered data.	
Tom Petrich (5) PG&E #1	Yes There are other references to "actual" data. (For example, Requirement 1 states "The RA shall monitor real time system operating limits and compare these against actual data associated with those limits".) If "actual" data is the same as "real" data, then we suggest using the term "actual" data throughout the standard to avoid confusion in the future.
As suggested, the term 'actual' data was used synonymously with 'real' data in the first draft of this standard. The revised standard does not include the reference to 'actual' data.	
Susan Morris SERC #2 Thomas Pruitt Duke #1	Yes Footnotes should be repeated at least once for each requirement to remind the reader of the definition.
Definitions have been removed from the footnotes and appear at the beginning of the standard. This conforms with the new format for NERC's reliability standards. These definitions will be posted and balloted along with standard, but will not be restated in the standard. Instead, they will be included in a separate "Definitions" section containing definitions relevant to all standards that NERC develops.	
John Blazekovich Exelon #1,3,5,6	Yes With the understanding that the footnote explanations will remain in place
Definitions have been removed from the footnotes and appear at the beginning of the standard. This conforms with the new format for NERC's reliability standards. These definitions will be posted and balloted along with standard, but will not be restated in the standard. Instead, they will be included in a separate "Definitions" section containing definitions relevant to all standards that NERC develops.	
Ed Stein	Yes

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Joanne Borrell Ray Morella Firstenergy #1, 3, 6	As long as specified data includes manually calculated values. Data should include real-time, state estimated, calculated or manually monitored values. It should allow a Reliability Coordinator/Transmission Operator/Generator to station an individual at a plant or substation to directly monitor values.
The recommended change was adopted and is reflected in the revised definition.	
Peter Burke ATC #1	Yes May need better definition as to what “real time” data means (4 second scans, 30 second scans, etc) as this could have an impact on other sections of the standard.
The definition of real time data has been revised, but does not include a specific scan rate because many commenters wanted the expanded definition to explicitly include manually collected data. As a result of the comments submitted, the compliance elements of the revised standard do not focus on telemetry.	
Lloyd Linke MAPP #2	Yes The term data must be qualified as real time when real time data is being compared to short term operational limits.
The recommended change was adopted and is reflected in the revised definition.	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1	Yes We agree however would urge the terms used in the standards be explicitly defined and quantified.
Definitions have been removed from the footnotes and appear at the beginning of the standard. This conforms with the new format for NERC’s reliability standards. These definitions will be posted and balloted along with standard, but will not be restated in the standard. Instead, they will be included in a separate “Definitions” section containing definitions relevant to all standards that NERC develops.	

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Alan Boesch NPPD #1 Alan Johnson Mirant #6 Albert M. DiCaprio MAAC #2 Bob Burkard NCMPEA1 # 3,4,5 Charles Yeung Reliant Energy #6 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Ed Riley CA ISO #2 Fred Frederick Vectren #3 Gerald Rheault Manitoba #1,3,5,6 James Stanton Calpine #5 Joe Minkstein PG&E #5 Joseph Buch Madison #4 Karl Kohlrus CWL&P #5 Ken Skroback AL Elec Coop #4 Kim Warren IMO #2 Lee Westbrook Oncor #1 Mike Miller Southern Co #1 OLDTF (9?) 6 - #2 1 - #1,5 Richard Kafka Pepco #1 Richard Schwarz PNSC #2 Sam Jones ERCOT #2 Stuart Goza TVA #1 Todd Lucas (6?) Southern Co #1 Tony Jankowski We-Energies #4	Yes
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**2. The draft standard uses the term ‘Reliability Analysis’ to mean those manual or automated studies, and system operator assessments. Reliability analyses includes both real time and operational planning analyses. Do you agree?**

**Summary Consideration:**

There seems to be consensus among commenters that the TOP should not be required to do an operational analysis, and that this measure only applies to RAs. The standard has been revised to reflect this, by omitting this requirement for the TOP.

Several commenters provided suggestions for improving the clarity of the term, ‘reliability analysis’. In the revised standard, the term, ‘reliability analysis’ is not used, instead either the term, ‘operational planning analysis’ or the term, ‘real-time assessment’ is used. Both of these terms will be posted for comment with the next draft of this standard.

<p>Compliance Mgrs Compl Subcomm</p>	<p>No</p> <p>RCs should be required to run (on-line/real-time automated studies and off line operational planning studies to identify and/or forecast bulk reliability concerns, but TOPs should not be subjected to such requirements.</p> <p>What is real time? Need to define “operational planning analysis”.</p> <p>There should be some qualifiers that define a NERC minimum periodicity to complete reliability analysis. The RA should establish their particular cycle for doing reliability analysis, and that information should be included in their Certification documentation.</p> <p>Need to define what types of analysis are expected: actual flows versus limits, contingency analysis of all possible contingencies? Analysis of only those conditions defined in the day-ahead or seasonal studies? Is the requirement to do a “reliability analysis” every day? Every shift? Everytime a change in system configuration demands etc.</p>
<p>The standard has been revised to require RAs (not TOPs) to perform operational planning analyses and real time assessments. The revised standard includes a minimum frequency for performing the operational planning analysis and for performing the real time assessments.</p> <p>The term operational planning analysis has been defined and will be posted for comment.</p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No</p> <ol style="list-style-type: none"> <li>1) RAs should be required to run (on-line/real-time) automated studies and off-line operational planning studies to identify and/or forecast bulk reliability concerns, but TOPs should not be subject to such requirements. The standard does not read as though manual analysis is sufficient, as it references “analysis tool” availability and then makes mention of “reliability analysis did not run” in multiple locations. This verbiage indicates that manual reliability analysis is not sufficient. Therefore, modifications should be made to alter this requirement for the TOPs. Expecting every TOP to acquire and maintain on-line reliability analysis tools is too expensive and too obtrusive without adequate reliability benefit to justify such a universal requirement – particularly since the RAs will be required to use such tools anyway.</li> <li>2) What is the scope of the term “real time”? The footnote appearing on pg.1 of Version A defines “real time” but it is still not clear if this is restricted to data extracted from the Energy Management Systems, and does a reference to “real-time” conceptually imply data, or processes, or both?</li> <li>3) What is the definition and scope of “operational planning analysis”?</li> </ol> <p><b>(5)</b> It seems the Reliability Analysis definition above is an attempt to conceal the fact that many existing entities performing Reliability Authority Functions do not have a working state estimator. The RA should explain what type of</p>

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	<p>analysis tool(s), the frequency, the type of input data (off-line or real-time), etc. that is used to perform “reliability analysis”.</p> <p>(5) Why are the analysis requirements of the RA and the TOP identical? If this is true, why do we need an RA and a TOP?</p> <p>6) Why isn't there a standard for the TOP to provide telemetered data? There should be some type of performance standard established to assess the accuracy of telemetered data.</p>
<p>The standard has been revised to omit the requirement that the TOP run analyses.</p> <p>The first draft of the standard did contain a mismatch between its definitions and the application of those definitions in the standard. The revised standard does not include the footnote that was included in the first draft. In the revised standard, the use of manually collected data is acceptable.</p> <p>In the revised standard, there is a definition of ‘operational planning analysis’ and additional details that require this analysis be conducted at least once each day the next day’s projected system operating conditions.</p> <p>New definition: An analysis of the expected system conditions, given the peak load forecast(s), known system constraints such as facility outages, and generator outages and limitations, etc. The analysis should ensure that no interconnection reliability operating limits will be exceeded during expected normal operation. An operational planning analysis is done up to seven days ahead of the expected conditions.</p> <p>In the revised standard, each RA must identify what data it needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area.</p> <p>The draft certification requirements for the TOP contain the following requirement:</p> <ul style="list-style-type: none"> <li>• Process/procedures and tools in place to provide transmission system information, in real-time, to the appropriate authorities.</li> </ul>	
<p>Thomas Pruitt Duke #1</p>	<p>No</p> <p>4) What is the scope of the term “real time”? The footnote appearing on pg.1 of Version A defines “real time” but it is still not clear if this is restricted to data extracted from the Energy Management Systems, and does a reference to “real-time” conceptually imply data, or processes, or both?</p> <p>5) What is the definition and scope of “operational planning analysis”?</p> <p>3) Why isn't there a standard for the TOP to provide telemetered data? There should be some type of performance standard established to assess the accuracy of telemetered data.</p>
<p>The first draft of the standard did contain a mismatch between its definitions and the application of those definitions in the standard. The revised standard does not include the footnote that was included in the first draft. In the revised standard, the use of manually collected data is acceptable.</p> <p>In the revised standard, there is a definition of ‘operational planning analysis’ and additional details that require this analysis be conducted at least once each day the next day’s projected system operating conditions.</p> <p>New definition: An analysis of the expected system conditions, given the peak load forecast(s), known system constraints such as facility outages, and generator outages and limitations, etc. The analysis should ensure that no interconnection reliability operating limits will be exceeded during expected normal operation. An operational planning analysis is done up to seven days ahead of the expected conditions.</p> <p>The draft certification requirements for the TOP contain the following requirement:</p> <ul style="list-style-type: none"> <li>• Process/procedures and tools in place to provide transmission system information, in real-time, to the appropriate authorities.</li> </ul>	
<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>This definition is too vague. Please elaborate to ensure that compliance is achieved. Please give specific examples</p>

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<p>In the revised standard, the term, 'reliability analysis' is not used, instead either the term, 'operational planning analysis' or the term, 'real-time assessment' is used. Both of these terms will be posted for comment with the next draft of this standard.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No It is difficult to assess compliance if you are not specific with the type of assessment and the time frame that needs to be address. For each case where a reliability analysis is required for compliance, a specific reference to real time or operational analysis needs to be defined. The references to real time analysis is not adequate, a better definition is required.</p>
<p>In the revised standard, the term, 'reliability analysis' is not used, instead either the term, 'operational planning analysis' or the term, 'real-time assessment' is used. Both of these terms will be posted for comment with the next draft of this standard.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>No Such a broad definition that includes "real-time" and "operational planning" allows for a great amount of variability in what the RA must do to assess the security/reliability of the system. This results in difficulty in assessing and measuring compliance. E.g. – one RA may perform real-time studies whereas another may not. If this broad definition is adopted, then specific references in the standard to a "real time" or "operational planning" time frame as to when these analysis are performed is needed.</p>
<p>In the revised standard, the term, 'reliability analysis' is not used, instead either the term, 'operational planning analysis' or the term, 'real-time assessment' is used. Both of these terms will be posted for comment with the next draft of this standard.</p> <p>The revised standard includes a requirement that an operational planning analysis be conducted at least once each day to look at the day ahead, and that real-time assessments be conducted at least once every 30 minutes</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>No We recommend substituting Reliability Analysis with operational planning analysis and real time assessment as appropriate to short term or long term studies. Also the term real time needs to be explicitly defined. Although the footnote appearing on page one of Version A defines "Real Time" it is still unclear if this is restricted to data extracted from the Energy Management Systems.</p>
<p>The recommended language substitution was adopted.</p> <p>A definition of real-time data has been updated and will be posted for comment with the revised draft standard.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>No See answer to question #1. <i>{It is recommended that "data" mean something specific vs. a "very general" reference to items. Being more specific would provide for us to give a more definitive answer on whether we agree or not.}</i></p>
<p>The revised standard includes a new definition of real-time data that seems to meet the consensus of the comments received.</p> <p>New definition: Real-time measured values, state estimator values derived from the measured values, or other calculated values derived from the measured values – may include directly monitored data, Inter-utility data exchange (e.g., Interconnection Control Area Communication Protocol and or SCADA Data), and manually collected data</p>	
<p>Lloyd Linke MAPP #2</p>	<p>Yes RAs should be required to run (on-line/real-time) automated studies to identify bulk reliability concerns, but TOPs should not be subject to such requirements. I don't believe the Standard reads as though manual analysis is sufficient, as it</p>

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	<p>references “analysis tool” availability and the makes mention of “reliability analysis did not run” in a multiple locations. This verbiage indicates that manual reliability analysis is not sufficient. Therefore, modifications should be made to alter this requirement for the TOPs. Expecting every TOP to acquire and maintain on-line reliability analysis tools is too expensive and too obtrusive without adequate reliability benefit to justify such a universal requirement – particularly since the RAs will be required to use such tools anyway.</p>
<p>The standard has been revised to omit the requirement that the TOP run analyses.</p> <p>The first draft of the standard did contain a mismatch between its definitions and the application of those definitions in the standard. The revised standard does not include the footnote that was included in the first draft. In the revised standard, the use of manually collected data is acceptable.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>Yes</p> <p>The footnote appearing on pg.1 of Version A defines “real time” but it is not clear if this is restricted to data extracted from the Energy Management Systems, and does a reference to “real-time” conceptually imply data, or processes, or both?</p>
<p>The first draft of the standard did contain a mismatch between its definitions and the application of those definitions in the standard. The revised standard does not include the footnote that was included in the first draft. In the revised standard, the use of manually collected data is acceptable as part of a real-time assessment.</p>	
<p>Vern Colbert Dominion #1</p>	<p>Yes</p> <p>Describe what a manual study will consist of. Reliability analysis should only be performed by the RA, not the TOP.</p>
<p>The revised standard does not use the term, ‘manual study.’ The term Reliability Analysis has been replaced by the terms, ‘operational planning studies’ and ‘real-time assessments to clarify what was intended.</p> <p>The standard has been revised to omit the requirement that the TOP run analyses.</p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>Yes</p> <p>I agree that the term should include both manual and automated process, however the standard did not read that way to me. Perhaps the drafting team should better clarify their intent in the standard</p>
<p>The first draft of the standard did contain a mismatch between its definitions and the application of those definitions in the standard. The revised standard does not include the footnote that was included in the first draft. In the revised standard, the use of manually collected data is acceptable.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>Yes</p> <p>Please define “operational planning analyses” as used in this standard.</p>
<p>The revised draft contains the following definition of an operational planning analysis:</p> <p>An analysis of the expected system conditions, given the peak load forecast(s), known system constraints such as facility outages, and generator outages and limitations, etc. The analysis should ensure that no interconnection reliability operating limits will be exceeded during expected normal operation. An operational planning analysis is done up to seven days ahead of the expected conditions.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>Yes</p> <p>It is agreed that Reliability Analysis may include consideration of results of planning studies, however this proposal includes language which would require Transmission Operators to conduct these analyses along with RA’s. While large RTO’s performing TOP functions may have no problem acquiring system models and other tools with which to perform these studies, smaller TOP’s such as Coop, PUD’s and other non-jurisdictional TOP’s who may operate Transmission Systems may have neither the tools nor the staffing to do anything but use manual monitoring to maintain system reliability.</p> <p>The drafting team should assess the feasibility of this requirement being met by</p>

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	small non RTO participant TOP's.
The standard has been revised to omit the requirement that the TOP run analyses.	
Todd Lucas (6?) Southern Co #1	Yes Any entity that is operating or has functional control of a transmission system should be required to have offline as well as real time analysis tools.
The certification standards address the tools that entities must have in place.	
Alan Boesch NPPD #1 Alan Johnson Mirant #6 Albert M. DiCaprio MAAC #2 Bob Burkard NCMIPA1 # 3,4,5 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Doug Hils Cinergy #1 ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2 Ed Riley CA ISO #2 Ed Stein Firstenergy Sol #6 Fred Frederick Vectren #3 Gerald Rheault Manitoba #1,3,5,6 James Stanton Calpine #5 Joanne Borrell FirstEnergy Sol #3 Joe Minkstein PG&E #5 John Blazekovich Exelon #1,3,5,6 Joseph Buch Madison #4 Karl Kohlrus CWL&P #5 Ken Skroback AL Elec Coop #4 Kim Warren IMO #2 Lee Westbrook Oncor #1 Mike Miller Southern Co #1 OLDTF (9?) 6 - #2 1 - #1,5 Peter Burke ATC #1 Raj Rana AEP #1,3,5,6 Ray Morella FirstEnergy #1 Richard Kafka Pepco #1 Richard Schwarz PNSC #2 Sam Jones ERCOT #2 Stuart Goza TVA #1 Tom Petrich (5) PG&E #1 Toni Timberman BPA #1 Tony Jankowski We-Energies #4 William Smith Allegheny Pwr #1	Yes

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3. This draft standard assumes that data needed to run reliability analyses has been provided as part of certification for the RA and/or TOP functions. This standard only addresses the changes to this “base data” that occur following the certification award – such as additions, deletions, or other changes to system facilities that would impact the accuracy of models used to monitor and assess the bulk transmission system. The intent is to minimize unnecessary documentation. Do you agree with this assumption?

Summary Consideration:

There was no consensus on this issue, and the revised Certification SARs don’t include a requirement for the provision of base data. The standard was revised to include a broader range of data, but does not include a specific list of data that must be provided. The requirement that the TOP also collect data has been omitted from the revised standard. Several entities indicated that data, beyond facility data, is needed to accurately monitor and assess the system, and references to ‘facilities’ have been omitted from the standard, allowing the RA to specify a broader range of data requirements to support its real-time monitoring, operational planning analyses and real-time assessments.

<p>Susan Morris SERC #2 Robert Reed TS (See List) Compliance Mgrs Compl Subcomm</p>	<p>No</p> <p>(6) The focus is only on providing specifications for the data required. It appears to be unclear that there is no requirement to actually provide the real-time data. For example, the TOPs are required to specify and require data, but they do not appear to be required to actually PROVIDE data to RAs.</p> <p>2) The certification process for the RA/TOP is not the proper means to obtain correct modeling data. It may be appropriate for real-time metering data, but much of the static data for system modelling and analysis is the same as the planning function. It should be consistent with those modelling requirements also.</p> <p>3) The standard does not distinctly identify the areas of responsibility between the Reliability Authority and the Transmission Operator. Application of the standard to multiple parties (“Authorities”) should clearly delineate the primary source of responsibility and ownership of any data, information, control and responsibility. What follows in the Standard are many requirements that duplicate the RA and TOP responsibilities – who has the primary responsibility/requirement/authority for each?</p> <p>4) The only provision in this standard is that data on new facilities must be provided seven days before it is energized. If operational planning studies have a scope of greater than seven days (possibly one year), then a seven-day notice is inadequate for these studies. There appears to be a requirement to have a standard that requires entities to provide the base data used to populate the models, in addition to the requirement to provide information on changes.</p> <p>5) All assumptions should be listed in the Standard’s document.</p>
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The revised standard does include a requirement that the TOP provide data to its RA.

Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA.

The revised standard does not include any requirements for the TOP beyond the requirement to provide data to its requesting RA. All of the other TOP requirements were dropped from the revised standard.

The operational planning studies being addressed in this standard are ‘next day’. The requirement that data be provided 7 days in advance of new facilities was dropped as a result of the comments submitted. The revised standard requires the RA to develop a data specification and distribute this to the entities that have facilities the RA monitors. The RA must identify when it needs data.

The standard format does not include a section for assumptions. Based on the comments submitted, additional details were added to the standard that should eliminate the need for a list of assumptions.

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<p>Thomas Pruitt Duke #1</p>	<p>No (6 The data assumptions and the intent of this question are not clearly stated 2) The certification process for the RA/TOP is not the proper means to obtain correct modeling data. It may be appropriate for real-time metering data, but much of the static data for system modelling and analysis is the same as the planning function. It should be consistent with those modelling requirements also.  3) All assumptions should be listed in the Standard's document.</p>
<p>The revised standard does include a requirement that the TOP provide data to its RA. Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA. The revised standard requires the RA to develop a data specification and distribute this to the entities that have facilities the RA monitors. The RA must identify when it needs data. The standard format does not include a section for assumptions. Based on the comments submitted, additional details were added to the standard that should eliminate the need for a list of assumptions.</p>	
<p>Sam Jones ERCOT #2</p>	<p>No It is unclear whether the certification process will address the provision of the data. If it does, then we agree with this. If it does not, then we need to ensure somewhere, perhaps in this standard, that the data is indeed provided.</p>
<p>Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>No The certification standard for all NERC Reliability Model functions should rely on the reliability standard itself to describe the particular requirements. A certification standard should only assess on a general level whether a reliability function is capable of performing its intended function(s). The Operating Within Limits Standard must – on its own – detail the exact data requirements for all RAs and TOPs and not have to rely on a Certification Standard to provide the data. In fact, the Certification Standard(s) should reference the Operating Within Limits Standard (and other applicable standards) to obtain the needed data for certification.</p>
<p>Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>No Manitoba Hydro agrees that this Standard has to address the requirement for updating the data in a timely fashion. However we believe that the requirement for “base data” is not and should not be addressed in the certification process. The requirement for the “base data” should be included in this Standard. The process to be defined by the RA and TOP to obtain data for reliability analysis purposes should address both “base data” and changes to this data to ensure accuracy of the models used for reliability analysis.</p>
<p>Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5  David Kiguel</p>	<p>No The certification process for the RA/TOP is in itself an insufficient vehicle to attain correct modeling data. It is felt that the submission of data reflecting changes to the system may reduce documentation but may unnecessarily restrict the RA's to a potentially incomplete data collection process. For example, in some cases the RA may choose to create study models as new base cases on a seasonal basis.</p>

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Hydro One #1	Therefore, the exchange of information has to be handled differently to ensure all parties receive the information in a timely manner such that the operating models in adjoining regions do not lead to different results.
Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA.	
George Bartlett Entergy Svcs 1	No This standard is for assuring the power system is operated within transmission limits. The functional responsibilities should be contained in this standards, not a certification standard. If necessary, the standard for certifying an “entity” to perform certain functions, like operating within transmission limits, should reference this document to assure the entity can be certified to perform those functions. Therefore, this standard should address base data and changes to that data.
Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA.	
Alan Boesch NPPD #1	No This is not included in the scope of the RA certification functions. The RA certification fuction will verify if the processes and procedures are in place to preform the analysis. The certification SAR drafting team will depend the standards to assure that the appropriate data is available.
Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA.	
Tony Jankowski We-Energies #4	No This assumption will not minimize unnecessary documentation. To be able to measure, one would have to identify the “Base Data” in order to determine what has changed. There will need to be documentation on the Base Data as well. The Standard should not assume some required Data is monitored or measured outside the Standard.
Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA.	
Raj Rana AEP #1,3,5,6	No This standard should define the minium type of data that is to be provided to the RA, similar to Policy 4B and Appendix 4B requirements today. Additionally, we disagree with the proposal that TOP functions need to be certified and stated such during the first comment period for the organizational SARs.
The comments received from the industry indicated that there are many different types of data needed by the RA to support real time monitoring, operational planning analyses and real time assessments. Rather than identify specifically what data must be provided, we revised the requirement to indicate that each RA must specify what data it needs.	
John Blazekovich Exelon #1,3,5,6	No Verification of “base data” should be included/required upon request on a case by case basis to validate studies
The standard was revised to exclude references to ‘base data.’ With the revised standard, each RA must specify what data it wants, the time frame in which the data must be supplied, and must come to an agreement on the ‘acceptable format’ for providing that data.	
ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2	No (1) This assumption needs to be clearly stated at the front end of the standard. (2) The standard should define the data that needs to be provided similar to NERC Appendix 4B – Electric System Security Data.

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<p>The standard format does not include a section for assumptions. Based on the comments submitted, additional details were added to the standard that should eliminate the need for a list of assumptions.</p> <p>The comments received from the industry indicated that there are many different types of data needed by the RA to support real time monitoring, operational planning analyses and real time assessments. Rather than identify specifically what data must be provided, we revised the requirement to indicate that each RA must specify what data it needs.</p>	
<p>Compliance Mgrs Compl Subcomm</p>	<p>No</p> <p>What is meant by “Real time Monitoring”? Does this refer to computer updated data a System Operator will use? If data is updated every 10 minutes, or once an hour, or once a shift, is it Real Time? If a quantity is only updated once a week or once a year, is it considered Real Tim Data? The writer must be able to describe what is meant by “Real time” so that the standard can be consistently measured.</p>
<p>Real time monitoring:</p> <p>To use vision and hearing to scan various real-time data sources and draw conclusions about what the data indicates. Having the ability to scan real time data as conditions dictate.</p> <p>In this revised standard, the RA is required to monitor system parameters, in real-time, to determine if interconnection reliability operating limits have been exceeded. The standard does not include technical requirements for updating telemetry data.</p>	
<p>Ken Skroback AL Elec Coop #4</p>	<p>No</p> <p>These assumptions work in the new NERC model but don't apply to a small utility (G &amp; T) that is not separated and serves as its own control area. Since non separated utilities are prevented from receiving data from RA's, some of these studies are conducted by the RA using data provided by us to them</p>
<p>The standard has been revised to require that the RA provide a specification for the data it needs and provide this specification to those entities with facilities monitored by the RA. The entities with facilities monitored by the RA are required to provide the RA with the specified data.</p> <p>The data being addressed in this standard is needed for reliability, not for commercial purposes. Please review the revised requirements and let us know if the revised requirements are acceptable.</p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>No</p> <p>Assumptions should be avoided, and drafting team should better clarify their intent in the document.</p>
<p>The standard format does not include a section for assumptions. Based on the comments submitted, additional details were added to the standard that should eliminate the need for a list of assumptions.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>Why is it necessary to make sure that updates are provided for? The RA/TOP certification process should be enough to ensure that the entity is performing the functions including updates. To add this requirement adds a layer of compliance which is redundant and not required.</p>
<p>Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA. (Although adding this data collection requirement to the certification process was suggested by this SDT, it was not adopted in the revised certification SARs.)</p> <p>In the revised standard, the RA is not required to ‘request’ data – rather the RA is required to ‘specify’ what data it needs.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No</p> <p>This issue is unclear. It is not clear in the Standard as to the nature of the data required. Is this data static, telemetered or modeling data. We are interpreting one requirement to mean that the RA will identify that data collected and provided for reliability analysis. This is not to say the an RA may request data on an as needed bases to perform the reliability analysis. Where is the role of the Compliance</p>

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	Monitor defined?
<p>The standard has been revised to require that the RA provide a specification for the data it needs and provide this specification to those entities with facilities monitored by the RA. The entities with facilities monitored by the RA are required to provide the RA with the specified data. The data is data needed to support real time monitoring, operational planning analyses or real time assessments.</p> <p>The Compliance Monitor is a function in the Functional Model, currently performed by the Regional Reliability Organizations. <i>“An entity of the NERC Region Organization that performs the functions of reviewing and ensuring compliance with NERC Reliability Policies and Standards, and of administering sanctions or penalties for non-compliance to standards.”</i></p>	
Francis Halpin BPA Bus Line #5,6	<p>No</p> <p>In order to accurately model system operations for reliability analysis, the RA should have data relating to the intended actual operation of system facilities. While revisions to the base data will certainly be necessary for system modeling, additional near real time operational data must be considered even if there is no change to facilities or to the base data. The standard should make it clear that additional data, above and beyond that provided as base data may be required of facility owners.</p>
<p>The standard has been revised to require that the RA provide a specification for the data it needs and provide this specification to those entities with facilities monitored by the RA. References to base data and data associated with new or changed facilities have been dropped from the revised standard. In the revised standard, the entities with facilities monitored by the RA are required to provide the RA with the specified data. The revised standard clarifies that this is data needed to support real time monitoring, operational planning analyses or real time assessments.</p>	
Roman Carter So Co Gen 3,5,6 (6 members)	<p>No</p> <p>See answer to question #1.</p> <p><i>It is recommended that “data” mean something specific vs. a “very general” reference to items. Being more specific would provide for us to give a more definitive answer on whether we agree or not.</i></p>
<p>In the revised standard, when ‘data’ is used, additional details have been provided to clarify what type of data is being addressed.</p>	
FRCC	<p>No</p> <p>The certification process for the RA or TOP is not the place to ensure that correct modeling data is supplied by operating entities. The requirement for obtaining initial data, and future changes to data needs to reside in one standard.</p> <p>In addition the draft standard only requires 7 days prior to the energization of new facilities for data to be submitted. This short time frame may not be enough for operational planning studies that may go out as far as 12 months. Perhaps NERC should not make this requirement, but leave it up to the Region or Reliability Authority to determine what the appropriate notification time is.</p>
<p>Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA.</p> <p>References to data associated with new or changed facilities have been dropped from the revised standard. In the revised standard, the entities with facilities monitored by the RA are required to provide the RA with the specified data in the time frame specified by the RA and in a mutually agreed upon format. The revised standard clarifies that this is data needed to support real time monitoring, operational planning analyses or real time assessments.</p>	

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<p>Peter Burke ATC #1</p>	<p>Yes Agree as long as there is an acceptable definition provided during the certification studies for the required data needed for analysis. Concern that loss of any data will be seen as a violation when in fact data redundancy inherent in the system allows reliable operation of the system even with loss of some data.  The attempt to reduce the burden is appreciated.</p>
<p>Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA. The revised certification SARs do not include a requirement for provision of 'base data.'</p> <p>In the revised standard, there is less compliance focus on telemetry as a result of your comment and comments from others who voiced a concern about penalties associated with loss of data and the difficulties inherent in trying to assess compliance with such a measure.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>Yes The focus is only on providing specifications for the data required. There appears to be a hole in that no requirement to actually provide the real-time data is spelled out. For example, the TOP's are required to specify and require data, but they don't appear to be required to actually PROVIDE data to RAs.</p>
<p>The standard has been revised to include a requirement that TOPs provide data.</p>	
<p>Ray Morella Ed Stein FirstEnergy #1, 6</p>	<p>Yes This assumption needs to be clearly stated at the front end of the standard.</p>
<p>The standard format does not include a section for assumptions. Based on the comments submitted, additional details were added to the standard that should eliminate the need for a list of assumptions.</p>	
<p>Joseph Buch Madison #4</p>	<p>Yes My understanding of the process is that for a RA or TOP to be certified they would need to demonstrate among other things that they already have the required "base" data. Thus this standard only covers changes/new additions. However, the standard does not define what is existing. Included in the standard should be a definition of existing facilities. It is recommended that the following or something similar be added to clearly define existing facilities. "Facilities that are already energized as of the day the standard is approved or the date the RA or TOP is certified are considered existing facilities."</p>
<p>Many commenters indicated that certification is not the place to collect data, and the standard was revised to expand the scope of data to be specified and collected by the RA. The revised certification SARs do not include a requirement for provision of 'base data.'</p> <p>The standard has been revised to require that the RA provide a specification for the data it needs and provide this specification to those entities with facilities monitored by the RA. References to base data and data associated with new or changed facilities have been dropped from the revised standard. In the revised standard, the entities with facilities monitored by the RA are required to provide the RA with the specified data. The revised standard clarifies that this is data needed to support real time monitoring, operational planning analyses or real time assessments.</p>	
<p>Darrel Richardson Illinois Power #1, 3</p>	<p>Yes We agree as long as "other changes" includes day-to-day significant changes to the bulk transmission system.</p>

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<p>The standard has been revised to require that the RA provide a specification for the data it needs and provide this specification to those entities with facilities monitored by the RA. References to base data and data associated with new or changed facilities have been dropped from the revised standard. In the revised standard, the entities with facilities monitored by the RA are required to provide the RA with the specified data. The revised standard clarifies that this is data needed to support real time monitoring, operational planning analyses or real time assessments.</p>	
<p>Toni Timberman BPA #1</p>	<p>Yes Need to allow for requesting additional data not previously requested for the original database, but not necessarily associated with a new facility. Very often a State Estimator or Operational Planning studies will identify the need for additional information for an area where the solution is not as good as desired, and additional information for existing facilities to improve the model or additional real-time measurements will be requested to allow a better solution.</p>
<p>The standard has been revised to require that the RA provide a specification for the data it needs and provide this specification to those entities with facilities monitored by the RA. References to base data and data associated with new or changed facilities have been dropped from the revised standard. In the revised standard, the entities with facilities monitored by the RA are required to provide the RA with the specified data. The revised standard clarifies that this is data needed to support real time monitoring, operational planning analyses or real time assessments.</p>	
<p>Alan Johnson Mirant #6 Albert M. DiCaprio MAAC #2 Bob Burkard NCMPTA1 # 3,4,5 Dilip Mahendra SMUD #1 Doug Hils Cinergy #1 Ed Riley CA ISO #2 Fred Frederick Vectren #3 James Stanton Calpine #5 Joanne Borrell FirstEnergy Sol #3 Joe Minkstein PG&amp;E #5 Karl Kohlrus CWL&amp;P #5 Kim Warren IMO #2 Lee Westbrook Oncor #1 Mike Miller Southern Co #1 Richard Kafka Pepco #1 Roger Green Southern Co #5 Stuart Goza TVA #1 Todd Lucas (6?) Southern Co #1 Tom Petrich (5) PG&amp;E #1 Vern Colbert Dominion #1 William Smith Allegheny Pwr #1</p>	<p>Yes</p>

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4. The draft standard uses the term “Industry Accepted Format” to mean a generally accepted format used by the electric power industry to specify the parameters that must be addressed in development of the system model and/or to transmit data. Do you agree?

### Summary Consideration:

The consensus of the commenters indicated that there is no “industry standard” data format. The standard has been revised to use the term, “mutually agreeable format.” This enables each RA to work with the entities that must supply it data and come up with a format that works for them. This seemed like the least costly identified alternative that would still result in the RA getting the data it needs from those entities that own that data, without giving the RA dictatorial rights.

Toni Timberman BPA #1 Richard Schwarz PNSC #2	No an “Industry Accepted Format” does not exist.
Most commenters agreed with you, and the term has been replaced with the term, ‘mutually agreeable format’.	
Roman Carter So Co Gen 3,5,6 (6 members)	No See answer to question #1. <i>{It is recommended that “data” mean something specific vs. a “very general” reference to items. Being more specific would provide for us to give a more definitive answer on whether we agree or not.}</i>
The standard has been revised to add more specificity to clarify what types of data are being addressed.	
Charles Yeung Reliant Energy #6	No The term “Industry Accepted Format” may be interpreted to be RTO established, Regional Reliability Council established or some standards setting organization (non-NERC) established format. The Standard should either specify the format – or if a single format is not applicable for the entire North America, then the Standard should provide enough direction for those who must comply with its requirements as to where/who will specify the format.
The standard was revised to indicate that each RA must specify a ‘mutually agreeable format’ for the data it is collecting. The intent is to enable each RA to work with the entities that must supply it with data, and develop a format that works for them. Specifying a single format seemed like it would be very costly to implement for many entities, and wouldn’t necessarily lead to an improved ability to control the electric system so it stayed within interconnection reliability operating limits.	
Kathleen Goodman ISO NE #2	No Each RA/TOP should use whatever format that is acceptable to its constituencies.
The revised standard adopts this concept.	
John Blazekovich Exelon #1,3,5,6	No In cases where the data format is not stipulated by tariff or connection requirements, a mutually agreed to format be determined. In cases where parties cannot come to mutual agreement NERC should provide minimum standards.
The revised standard adopts the concept of having a mutually agreeable format, but doesn’t include a provision for NERC to establish minimum standards.	
Gregory Campoli NY ISO #2	No It is not clear who defines the “Industry Accepted Format”. It should state that the Industry accepted format should be a mutually agreed upon format defined by the individuals that are exchanging data. This format must not be

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	prescriptive.
The revised standard adopts the concept of having a mutually agreeable format.	
Alan Johnson Mirant #6	This term is too vague to be utilized in the standard. At a minimum, the term should reference another standard (developed by NERC and/or NAESB) where the “standard” format is fully described. As the term is used within the standard, it seems that potentially, each RA could specify a different meaning. This is something that must be avoided.
The revised standard adopts the concept of having a mutually agreeable format. This seems a compromise from having a requirement that is interpreted as being overly restrictive to suit some RA’s needs, and not detailed enough to meet another RA’s needs. By requiring that the format be ‘mutually agreeable’, the desire is to put some level of assurance that each RA will specify a format that doesn’t place an unfair burden on other entities	
Compliance Mgrs Compliance Sub	Yes ...as long as this does not lead to the creation of another “industry accepted format” or require a significant change from the way data has routinely been exchanged in the past. (typically using PSS/e or PSLF powerflow raw-data formats for representational data, etc.)
The revised standard adopts the concept of having a mutually agreeable format. If entities are currently exchanging data in a manner that results in the RA obtaining the data it needs (to do real time monitoring, operational planning analyses and real time assessments) in a mutually agreed upon format and in a time frame that is acceptable to the RA, then there shouldn’t be a need for significant changes. The SDT is concerned that some RAs may not have a data specification and may need to invest resources in developing one.	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1	Yes Yes, however “Industry Accepted Format” must not be overly perscriptive and must not preclude mutually agreed upon data exchange methods between adjoining areas. Also how is it proposed to handle “proprietary data”?
The revised standard adopts the concept of having a mutually agreeable format. The RA Certification standard includes a requirement that the RA sign a confidentiality agreement.	
Darrel Richardson Illinois Power #1, 3	Yes We agree as long as the term “generally accepted” implies that the format is specific but that the acceptance is by the majority of the industry.
The revised standard adopts the concept of having a mutually agreeable format. This was proposed by several commenters and seemed to achieve the desired objective without going as far as requiring the adoption of a single method by the majority of the industry.	
Gerald Rheault Manitoba #1,3,5,6	Yes Manitoba Hydro believes that as much as possible the appropriate Standard should specify what the acceptable format should be. For parameters where this is not possible the term “Industry Accepted Format” should be acceptable.
The revised standard adopts the concept of having a mutually agreeable format. This was proposed by several commenters and seemed to achieve the desired objective without going as far as requiring the adoption of a single method by the majority of the industry.	
Francis Halpin BPA Bus Line #5,6	Yes The industry accepted format should be arrived at by industry consensus.
The revised standard adopts the concept of having a mutually agreeable format. This was proposed by several commenters and seemed to achieve the desired objective without going as far as requiring the adoption of a single method by the majority of the industry.	

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<p>Tom Petrich (5) PG&amp;E #1</p>	<p>Yes Since there are numerous formats that can be qualified as “Industry Accepted Formats”, the entities performing the related RA, BA, TOP, IA, TOW, Generator functions should agree on a set of common formats to be used for data exchange to avoid unnecessary duplication of work.</p>
<p>The revised standard reflects the adoption of this suggestion.</p>	
<p>Robert Reed TS (See List) Susan Morris SERC #2 Thomas Pruitt Duke #1</p>	<p>Yes ...as long as this does not lead to the creation of another “industry accepted format” or require a significant change from the way data has routinely been exchanged in the past. (typically using PSS/e or PSLF powerflow raw-data formats for representational data, etc.)</p>
<p>The revised standard adopts the concept of having a mutually agreeable format. This was proposed by several commenters and seemed to achieve the desired objective without going as far as requiring the adoption of a single method by the majority of the industry.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>Yes Agree as long as this does not lead to a new industry accepted format or a change in the currently accepted formats currently used for data exchange.</p>
<p>The revised standard adopts the concept of having a mutually agreeable format. This was proposed by several commenters and seemed to achieve the desired objective without going as far as requiring the adoption of a single method by the majority of the industry.</p>	
<p>Ray Morella FirstEnergy #1 Ed Stein Firstenergy Sol #6</p>	<p>Yes This assumption needs to be clearly stated and also should be similar to 4B of NERC policy</p>
<p>The standard format does not include a section for assumptions. Based on the comments submitted, additional details were added to the standard that should eliminate the need for a list of assumptions. The revised standard adopts the concept of having a ‘mutually agreeable format.’ rather than an ‘industry accepted format.’ The data requirements in Operating Policy 4B aren’t likely to be an exact match to what any one RA needs, but may serve as a good starting point for an RA that doesn’t have a data specification and needs to develop one.</p>	
<p>Peter Burke ATC #1</p>	<p>Yes Who will develop this “Industry Accepted Format” and what is the timeline for that development? Is there one “Industry Accepted Format” or are we at the mercy of industry giants who may want their “format” used? Is there another team working on development?</p>
<p>The revised standard adopts the concept of having a ‘mutually agreeable format.’ rather than an ‘industry accepted format.’</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>Yes We agree with the requirement so long as an existing “Industry Accepted Format” is used and a new one is not created.</p>
<p>The revised standard adopts the concept of having a ‘mutually agreeable format.’ rather than an ‘industry accepted format.’</p>	
<p>Fred Frederick Vectren #3</p>	<p>Yes This is an area of concern for many. In the past there was an IEEE standard interchange format to share power flow data. Recently there have been numerous upgrades in power flow modeling programs and their associated data structures. Unfortunately the IEEE standard format has not kept pace. At the other extreme are program developers that insist on changing data</p>

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	<p>structures on nearly a regular basis to provide program “enhancements”. This creates conversion problems for those using older or different power flow programs. A standard data interchange data model needs to be developed to allow free interchanging of model data between different programs. The structure would only be changed through committee agreement. If this cannot be achieved, program developers should be required to provide data structure information and make it available to any party upon request. The data structure should also allow programs to be backward compatible. That is a newer program should always be able to read an older data format and perform satisfactorily.</p>
<p>The revised standard adopts the concept of having a ‘mutually agreeable format.’ rather than an ‘industry accepted format.’ Many commenters wrote and indicated that there are many different types of data needed to support real time monitoring, operational planning analyses and real time assessments. Specifying a single data format for the entire industry seemed more than what is needed to ensure that each RA has the data it needs.</p>	
<p>Albert M. DiCaprio MAAC #2</p>	<p>Yes</p> <p>The definition could lead some to believe that there is a pre-defined format somewhere. A more acceptable phrase would be “mutually agreeable format”. That way if a new format were to arise that the RA wants to use and the data suppliers are willing to use, then NERC should not care what format is used.</p> <p>As long as the definition recognizes the agreement between the consenting parties to mean ‘industry accepted” then there is no issue.</p>
<p>Based on the many comments received, there were many different interpretations of what was meant by ‘industry accepted format’. Based on these comments, the standard has been revised as you and several others suggested, and uses the term, ‘mutually agreeable format.’</p>	

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<p>Alan Boesch NPPD #1          Bob Burkard NCMIPA1 # 3,4,5          Dilip Mahendra SMUD #1          Doug Hils Cinergy #1          ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2          Ed Riley CA ISO #2          FRCC 6-#1, 4-#2, 1-#2          James Stanton Calpine #5          Joanne Borrell FirstEnergy Sol #3          Joe Minkstein PG&amp;E #5          Joseph Buch Madison #4          Karl Kohlrus CWL&amp;P #5          Ken Skroback AL Elec Coop #4          Kim Warren IMO #2          Lee Westbrook Oncor #1          Lee Xanthakos SCE&amp;G #1          Lloyd Linke MAPP #2          Mike Miller Southern Co #1          OLDTF (9?) 6 - #2 1 - #1,5          Raj Rana AEP #1,3,5,6          Richard Kafka Pepco #1          Sam Jones ERCOT #2          Stuart Goza TVA #1          Tony Jankowski We-Energies #4          Vern Colbert Dominion #1          William Smith Allegheny Pwr #1</p>	<p>Yes</p>
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**5. Based on the above graph, do you agree with the concept that operation within the “yellow zone” is exceeding an operating limit, but not a reportable violation?**

Summary Consideration:

Several commenters indicated that the SDT should consider the work of the OLDTF, and that has been done. The basic concepts of the OLDTF and the SDT are the same, but there are some differences between the OLDTF work and the SDT work.

The chart has been revised to more clearly indicate which events must be documented and which events must be both documented and reported.

No – Comments indicating we should wait for OLD TF	
FRCC 6-#1, 4-#2, 1-#2	No There are too many “irons in the fire” just now. The NERC OC has a task force working on this particular issue, and as indicated in the March OC meeting highlights, have directed the Reliability Coordinators to “field test” the OLDTF’s definition and reporting form.
<p>The SDT is happy to utilize the work of the OLDTF to the extent that its work is available in conjunction with the development of this Standard. The SDT will not wait for the OLDTF or any other group to complete its work.</p> <p>This proposed standard is being developed in an open process. All SDT meetings are open, and the OLDTF has sent a representative to meet with the SDT to share the work of the OLDTF. The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.</p> <ul style="list-style-type: none"> <li>– The OLDTF requires reporting IRLs that have remained for 30 minutes or longer, while this proposed standard requires reporting each instance where an IROL has been exceeded for its unique T<sub>v</sub>.</li> </ul> <p>The data required by the OLDTF is more extensive than the data required by this standard.</p> <p>As part of this open process the SDT will continue with its standard drafting effort and will consider all the comments submitted with each public posting. The NERC standards development process provides ample opportunity for groups such as the OLD task force to contribute to this process.</p>	
OLDTF (9?) 6 - #2 1 - #1,5	No Please refer to the Operating Limits Definition Task Force report, “NERC Operating Limit Definitions and Reporting.” The Task Force considers this report to be an integral part of its comments to Standard Drafting Team.  The OLDTF has defined “Limit Compliance Violation” for reporting IRL violations to the Regional Council and NERC.
<p>The specific terms recommended in the OLDTF report have not been adopted, but the concepts have been adopted. The terms used by the OLDTF were considered somewhat confusing and not in concert with terminology used in other new reliability standards, and that is why they weren’t adopted.</p>	
Vern Colbert Dominion #1 Thomas Pruitt Duke #1 Susan Morris SERC #2 Robert Reed TS (See List)	No Wait until the OLDTF defines this.

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The SDT is happy to utilize the work of the OLDTF to the extent that its work is available in conjunction with the development of this Standard. The SDT will not wait for the OLDTF or any other group to complete its work.

This proposed standard is being developed in an open process. All SDT meetings are open, and the OLDTF has sent a representative to meet with the SDT to share the work of the OLDTF. The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.

- The OLDTF requires reporting IRLs that have remained for 30 minutes or longer, while this proposed standard requires reporting each instance where an IROL has been exceeded for its unique T<sub>v</sub>. The data required by the OLDTF is more extensive than the data required by this standard.

As part of this open process the SDT will continue with its standard drafting effort and will consider all the comments submitted with each public posting. The NERC standards development process provides ample opportunity for groups such as the OLD task force to contribute to this process.

<p>Guy Zito (See List)                  NPCC #2 – 2                  NPCC #1 – 5                  David Kiguel                  Hydro One #1</p>	<p>No                  This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved.</p>
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The SDT is happy to utilize the work of the OLDTF to the extent that its work is available in conjunction with the development of this Standard. The SDT will not wait for the OLDTF or any other group to complete its work.

This proposed standard is being developed in an open process. All SDT meetings are open, and the OLDTF has sent a representative to meet with the SDT to share the work of the OLDTF. The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.

- The OLDTF requires reporting IRLs that have remained for 30 minutes or longer, while this proposed standard requires reporting each instance where an IROL has been exceeded for its unique T<sub>v</sub>. The data required by the OLDTF is more extensive than the data required by this standard.

As part of this open process the SDT will continue with its standard drafting effort and will consider all the comments submitted with each public posting. The NERC standards development process provides ample opportunity for groups such as the OLD task force to contribute to this process.

<p>Gregory Campoli                  NY ISO #2</p>	<p>No                  Responses to this portion of the standard should be delayed until a response is provided by the NERC Operating Limit Definition TF.</p>
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The SDT is happy to utilize the work of the OLDTF to the extent that its work is available in conjunction with the development of this Standard. The SDT will not wait for the OLDTF or any other group to complete its work.

This proposed standard is being developed in an open process. All SDT meetings are open, and the OLDTF has sent a representative to meet with the SDT to share the work of the OLDTF. The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.

- The OLDTF requires reporting IRLs that have remained for 30 minutes or longer, while this proposed standard requires reporting each instance where an IROL has been exceeded for its unique T<sub>v</sub>. The data required by the OLDTF is more extensive than the data required by this standard.

As part of this open process the SDT will continue with its standard drafting effort and will consider all the comments submitted with each public posting. The NERC standards development process provides ample opportunity for groups such as the OLD task force to contribute to this process.

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<b>No – Comments about graph details</b>	
Doug Hils Cinergy #1	No The visual is a good follow up to a limit violation but needs text to document what the chart is for, without these questions the chart is of little usage. Chart leaves question as to the actual exceeding of the operating limit, label placement would allow for individual interpretation, is the limit the heavy green line, the demark between the green background and the red and yellow areas?
The chart has been revised to include additional specificity as suggested.	
John Blazekovich Exelon #1,3,5,6	No The above graph is not clearly defined, cannot determine what kind of limit(s) are being demonstrated (thermal, stability). More clarification needed before the question can be answered.  Not sure why this is asked in this standard when one of the Explanations of Terms explains that the definitions of system operation limits and operating limit violations is being developed by the Facility Ratings SAR. Shouldn't the definition of a violation eliminate the need to ask this question?
The chart has been revised to include additional specificity as suggested.  The Determine Facility Ratings, System Operating Limits and Transfer Capabilities Standard (Facility Ratings Standard) includes requirements for defining these elements but does not include the term, 'violation'. The Monitor and Assess Short-term Reliability – Operate Within Transmission Limits Standard (Operate within Limits Standard) addresses adherence to limits and addresses non-compliance for operating in a manner that exceeds a subset of the system operating limits. The revised standard introduces some new terms to clarify which system operating limits are being addressed in the standard.	
George Bartlett Entergy Svcs 1	No There is not enough information to understand the chart nor to answer this question. Operating above a limit in an event the duration of which is less than the time frame upon which the limit is calculated does not seem to be a reportable violation. We are not sure what the dashed line represents. We agree that an operating limit could be exceeded for a short time, but less than the time frame upon which the limit is based, and not be considered a reportable violation.
The chart has been revised to include additional specificity as suggested. The revised standard attempts to better define which instances of exceeding system operating limits must be documented and which instances of exceeding system operating limits must be both documented and reportable. The revised standard addresses a subset of the system operating limits called, "Interconnection Reliability Operating Limits." Each of these limits is identified by the RA and has both a magnitude and a duration component. If the limit is exceeded for any length of time, the instance must be documented. Only those instances where the limit has been exceeded for a time greater than the defined duration must be reported.	
Lee Westbrook Oncor #1	Graph needs more information to clarify question.
The chart has been revised to include additional specificity as suggested.	
Bob Burkard NCMPA1 # 3,4,5	The graph needs additional information – axis label, d, etc.
The chart has been revised to include additional specificity as suggested.	
Ken Skroback AL Elec Coop #4	The above graph is unlabeled and I can't tell anything about it.
The chart has been revised to include additional specificity as suggested.	
Karl Kohlrus	To me the graph is unclear. For someone who has not seen this graph

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CWL&P #5	before, it is not obvious what it is trying to show. That is, are the bad areas along the x or y axis? It would be better to have a graph with three regions: the allowable (green) region within a deadband, a yellow region that may need documentation, and a red region that is a reportable violation. For example, if a quantity has a deadband of -100 to +100, a yellow range may go from -110 to -100 and from +100 to +110, while the red range may be anything less than -110 and greater than +110.
The chart has been revised to include additional specificity as suggested.	
Joseph Buch Madison #4	The graph is not clear and does not define whether a normal or emergency operating limit is exceeded. The graph appears to indicate that the loading on a line is not a reportable violation if the load is reduced to the normal or acceptable level within a defined period of time. If the loading on the line is within the yellow range because of normal flows on an intact system and the next single contingency causes the loading to increase to a level that causes instability, uncontrolled separation or cascading outages then I would consider operation within the yellow zone a reportable violation.
The chart has been revised to include additional specificity as suggested. The revised standard does not distinguish between 'normal' and 'emergency' operating limits. The limits being addressed in this standard are the subset of all system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. In the revised standard these are called Interconnection Reliability Operating Limits (IROLs). Each IROL has both a magnitude and a duration component called the limit's $T_v$ . The RA identifies a $T_v$ for each IROL– for some IROLs this may be 40 minutes, for others it may be 10 minutes, for others this may be two hours. If the next single contingency were to cause instability, uncontrolled separation or cascading outages, then the $T_v$ would be expected to be very short. More likely, if the next contingency would lead to cascading outages, then exceeding the limit would be expected to move into the 'red' zone.	
No – Comments with suggestions for improving definitions	
Sam Jones ERCOT #2	Yes/No  It is unclear which context applies to “reportable violation”. If the violation being reported to NERC is the context, then this may be true only if the limit being monitored is an IRL (old OSL). It is true that the graph depicts an operating limit being exceeded. Whether it is reportable depends upon the context of whether it may be internally reportable on a Region basis, or whether it is intended to refer to reportable to NERC.
The chart has been revised to include additional specificity as suggested. The revised standard attempts to better define which instances of exceeding system operating limits must be documented and which instances of exceeding system operating limits must be both documented and reportable. The revised standard addresses a subset of the system operating limits called, “Interconnection Reliability Operating Limits.” Each of these limits is identified by the RA and has both a magnitude and a duration component called $T_v$ . If the limit is exceeded for any length of time, the instance must be documented. Only those instances where the limit has been exceeded for a time greater than the defined duration ( $T_v$ ) must be reported.	
Yes– Comments with suggestions for improving definitions	
Peter Burke ATC #1	Yes  This answer is “yes” but with the qualification that committing to “yes” depends on the eventual definition of an OSL, which is not available yet and is only now being developed by a different SAR drafting team.
The Determine Facility Ratings, System Operating Limits and Transfer Capabilities SAR did not include a definition of the subset of system operating limits being addressed in this standard. The revised standard does include use of the new term, “Interconnection Reliability Operating Limits.” The definition for this new term will be posted for public comment with the draft standard.	

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<p>Ray Morella FirstEnergy #1</p> <p>Joanne Borrell FirstEnergy Sol #3</p> <p>Ed Stein Firstenergy Sol #6</p>	<p>Yes</p> <p>It would be of value to state that a reportable violation does not exist until the Operating Security Limit has been consecutively violated for tdefined. It would also be of value to state that the exceeding of the operating limit for any period of time must be documented. If in the graph the monitored value dipped below the Operating Security Limit for an instance and then exceeded the limit for the rest of the period and that was still an Operating Security Limit Violation, another loophole will have been addressed. Documenting near misses is also a good idea</p>
<p>The graphs have been refined based on the numerous suggestions from commenters.</p> <p>The clock that measures the duration an IROL has been met or exceeded starts <b>each</b> time the monitored value is equal to its IROL and ends each time that value returns to a magnitude that is below the IROL. So, if the monitored value dipped below the IROL for an instant, (one EMS scan cycle), the clock would stop measuring the duration of the first event when the monitored value returned to a measure lower than the IROL. If the monitored value rose to the IROL again, the clock would re-start at t0 the moment the monitored value was equal to or greater than the IROL.</p>	
<p>William Smith Allegheny Pwr #1</p>	<p>Yes</p> <p>This is an excellent graph, but I am unsure the intent of including it in these comments? The graph depicts an OSL violation involving time and is too simplistic. OSLs could also be violated by exceeding the continuous ratings, or by exceeding emergency ratings for post-contingency flows monitored by state estimators. An OSL violation could also involve exceeding post-contingency voltage limits or stability limits where cascading could result. If OSL violations are going to be defined in this document, then all potential violation should be addressed.</p>
<p>The graphs have been revised to provide more examples, and to improve the labeling. The term, IROL has been adopted for use in this standard, and it is defined and explained through the new set of charts. This standard focuses just on the subset of all system operating limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>Yes</p> <p>Some clarification is needed. The System Operating Limit itself can be defined with a magnitude and a time limit, so the magnitude limit can be a step function. E.g., the allowable loading magnitude “X” for a 1-hour limit would be higher than the allowable loading “Y” for a 4-hour limit, so there should be a violation only if the yellow portion is above “X” for more than 1 hour, or above “Y” for more than 4 hours.</p>
<p>The subset of system operating limits being addressed in this standard are those limits that, if exceeded, could cause instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>When the RA or PA identifies which of its system operating limits will be IROLs, the RA or PA must also identity a duration component for each IROL. The duration component may be different for each limit. The IROLs have to be established following the Determine Facility Ratings standard and they can’t violate the owner’s facility ratings.</p>	
<p><b>Yes – Comments about graph details</b></p>	
<p>Toni Timberman BPA #1</p>	<p>Yes</p> <p>A diagram such as this should be part of the Standard, but the green solid line and the blue dashed line should be deleted as they have no relevance and are confusing.</p>
<p>The chart has been revised.</p>	

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Francis Halpin BPA Bus Line #5,6	Yes But, the lines and arrows look like they need some more accurate placement.
The chart has been revised.	
Raj Rana AEP #1,3,5,6	Yes See comments about the graph in the white comment boxes above on the graph. The graph is hard to understand and interpret. <ul style="list-style-type: none"> <li>- When is to reset? If the actual data drops below the limit for 30 sec., is the time reset to 0 for determining the violation? What if for 3 minutes or 3 seconds?</li> <li>- What is the significance of the dotted blue line? Is this to indicate that if you exceed this level regardless of duration you have a violation?</li> <li>- This section above the yellow shaded area should not be red unless the Facility Ratings Standard defines a SOL violation as having a magnitude component, i.e. if you exceed 110% of a limit even instantaneously, then you have a SOL violation.</li> </ul>
<p>The clock that measures the duration an IROL has been met or exceeded starts <b>each</b> time the monitored value is equal to its IROL and ends each time that value returns to a magnitude that is below the IROL. So, if the monitored value dipped below the IROL for an instant, the clock would stop measuring the duration of the first event when the monitored value returned to a measure lower than the IROL. If the monitored value rose to the IROL again, the clock would re-start at t0 the moment the monitored value was equal to or greater than the IROL.</p> <p>The chart has been revised, and the blue line is not included in the revised chart.</p> <p>The revised chart does not include a 'red' section above the 'yellow' section.</p>	
ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2	Yes First this graph is a great aid in understanding this standard. I really like it. The following suggestions are for making a good thing better. I voted yes because of my interpretation of the graph. I'm not sure my interpretation is completely correct. I recommend that the graph (and the description of the graph) also be done in various shades of grey because not everybody has a color printer and many operators would get a black and white copy of the graph. The pointers for Dactual, tgood, and limit should be closer to the curve or line that they represent. I don't know why there is a dotted blue line representing the max value of the monitored value; it doesn't seem to be used anywhere. I think it would be of value to state that a reportable violation does not exist until the Operating Security Limit has been consecutively violated for tdefined. I think it would be of value to state that the exceeding of the operating limit for any period of time must be documented. Under existing NERC Policy I assume that there would not be a reportable Operating Security Limit Violation if the Operating Security Limit were exceeded for 28 minutes, then it was not exceeded for 1 minute, then it was exceeded for another 28 minutes, then it was not exceeded for 1 minute and this pattern continued for the next 24 hours. I'm teasing a little here because you can't cover every circumstance in detail. In fact I do think that the above example would be a reportable Operating Security Limit Violation. If in the graph the monitored value dipped below the Operating Security Limit for an instance and then exceeded the limit for the rest of the period and that was still an Operating Security Limit Violation, another loophole will have been addressed.

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<p>The chart has been updated. We will produce the final version in shades of gray so that it is easy to understand when printed.</p> <p>The revised standard clearly states that all instances of exceeding an IROL must be documented, but only those instances of exceeding an IROL for a time greater than or equal to the IROL's <math>T_v</math> must be reported.</p> <p>The clock that measures the duration an IROL has been met or exceeded starts <b>each</b> time the monitored value is equal to its IROL and ends each time that value returns to a magnitude that is below the IROL. The value must remain below the IROL for at least 30 seconds – otherwise the clock continues ticking. So, if the monitored value dipped below the IROL for 30 seconds, the clock would stop measuring the duration of the first event when the monitored value returned to a measure lower than the IROL. If the monitored value rose to the IROL again, the clock would re-start at <math>t_0</math> the moment the monitored value was equal to or greater than the IROL.</p>	
<p><b>Yes – Misc comments</b></p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>Yes The results from the OLDTF may create the need to review this.</p>
<p>The SDT is happy to utilize the work of the OLDTF to the extent that its work is available in conjunction with the development of this Standard. The SDT will not wait for the OLDTF or any other group to complete its work.</p> <p>This proposed standard is being developed in an open process. All SDT meetings are open, and the OLDTF has sent a representative to meet with the SDT to share the work of the OLDTF. The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.</p> <ul style="list-style-type: none"> <li>– The OLDTF requires reporting IRLs that have remained for 30 minutes or longer, while this proposed standard requires reporting each instance where an IROL has been exceeded for its unique <math>T_v</math>.</li> </ul> <p>The data required by the OLDTF is more extensive than the data required by this standard.</p> <p>As part of this open process the SDT will continue with its standard drafting effort and will consider all the comments submitted with each public posting. The NERC standards development process provides ample opportunity for groups such as the OLD task force to contribute to this process.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>Yes Based on the above graph the terminology used is correct. However Manitoba Hydro believes that the concept of operation related to operating limits and reportable violations should be defined by the Standard Drafting Team for Standard “Determine Facility Ratings, System Operating Limits, and Transfer Capabilities”. The concepts that they develop should then be integrated in this Standard</p>
<p>The Determine Facility Ratings, System Operating Limits and Transfer Capabilities SAR did not include a definition of the subset of system operating limits being addressed in this standard. The revised standard does include use of the new term, “Interconnection Reliability Operating Limits.” The definition for this new term will be posted for public comment with the draft standard. This standard does support the definition of system operating limits established with the Determine Facility Ratings SAR.</p>	
<p>Fred Frederick Vectren #3</p>	<p>Yes/No</p>
<p>Ed Riley CA ISO #2</p>	<p>Yes The CAISO agrees with this requirement as long as the term “Documentable” refers to the entities’ internal process of documentation.</p>
<p>In the revised standard, ‘documentable’ has been clarified to indicate that this may be an operations log or other documentation indicating the magnitude and duration for each instance of exceeding an interconnection reliability operating limit (This data may be from an operating log, may be from the entity’s energy management system or may be from some other source.)</p>	

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<p>Charles Yeung Reliant Energy #6</p>	<p>Yes The yellow zone is clearly a region where the operations exceed a stated “safe” limit. To maintain the integrity of that limit, such excursions must be recognized. These should be reported to NERC and recorded though not defined as a “reportable violation”.</p>
<p>To reduce the burden of reporting, the standard limits the reporting requirements to those that exceed both the magnitude and duration components of the interconnection reliability operating limit. For compliance purposes, each RA must document each instance of exceeding an IROL, and must have this documentation available upon the request of its Compliance Monitor.</p>	
<p>Albert M. DiCaprio MAAC #2</p>	<p>Yes The idea of ‘documenting’ near-misses and not treating them as non-compliance is a good one. It will ensure that the industry can access such information if needed (for example if there is a question of too many near misses).</p>
<p>To reduce the burden of reporting, the standard limits the reporting requirements to those that exceed both the magnitude and duration components of the interconnection reliability operating limit. For compliance purposes, each RA must document each instance of exceeding an IROL, and must have this documentation available upon the request of its Compliance Monitor. If the industry were to conduct a study on near-misses, the Compliance Monitor would have the right to request this data.</p>	
<p>Stuart Goza TVA #1 Tony Jankowsk We-Energies #4 Roman Carter So Co Gen 3,5,6 (6 members) Kathleen Goodman ISO NE #2 Joe Minkstein PG&amp;E #5 Kim Warren IMO #2 Richard Kafka Pepco #1 Mike Miller Southern Co #1 Lloyd Linke MAPP #2 Dilip Mahendra SMUD #1 Darrel Richardson Illinois Power #1, 3 Richard Schwarz PNSC #2 James Stanton Calpine #5 Alan Johnson Mirant #6 Alan Boesch NPPD #1</p>	<p>Yes</p>

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6 **Based on the above graph, do you agree with the concept that operating within the “red zone” is a reportable violation?**

Summary Consideration:

Definition of an Interconnection Reliability Operating Limit – a system operating limit that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. Under the proposed standard, each case of exceeding an IROL must be logged as an ‘event’; each case of exceeding an IROL for a time greater than or equal to  $T_v$  must be reported to the Compliance Monitor. Instantaneous instances of exceeding a limit by a large amount must be documented but are not reportable events in the revised standard.

**No – Comments indicating we should wait for OLD TF**

Vern Colbert  
 Dominion #1  
 Thomas Pruitt Duke #1  
 Susan Morris SERC #2  
 Robert Reed TS (See List)

No  
 Wait until the OLDTF work is complete.

The SDT is happy to utilize the work of the OLDTF to the extent that its work is available in conjunction with the development of this Standard. The SDT will not wait for the OLDTF or any other group to complete its work.

This proposed standard is being developed in an open process. All SDT meetings are open, and the OLDTF has sent a representative to meet with the SDT to share the work of the OLDTF. The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.

- The OLDTF requires reporting IRLs that have remained for 30 minutes or longer, while this proposed standard requires reporting each instance where an IROL has been exceeded for its unique  $T_v$ . The data required by the OLDTF is more extensive than the data required by this standard.

As part of this open process the SDT will continue with its standard drafting effort and will consider all the comments submitted with each public posting. The NERC standards development process provides ample opportunity for groups such as the OLD task force to contribute to this process.

Guy Zito (See List)  
 NPCC #2 – 2  
 NPCC #1 – 5  
 David Kiguel  
 Hydro One #1

No  
 This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved.

The SDT is happy to utilize the work of the OLDTF to the extent that its work is available in conjunction with the development of this Standard. The SDT will not wait for the OLDTF or any other group to complete its work.

This proposed standard is being developed in an open process. All SDT meetings are open, and the OLDTF has sent a representative to meet with the SDT to share the work of the OLDTF. The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.

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As part of this open process the SDT will continue with its standard drafting effort and will consider all the comments submitted with each public posting. The NERC standards development process provides ample opportunity for groups such as the OLD task force to contribute to this process.

**Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard**

<p>Gregory Campoli NY ISO #2</p>	<p>No Responses to this portion of the standard should be delayed until a response is provided by the NERC Operating Limit Definition TF.</p>
<p>The SDT is happy to utilize the work of the OLDTF to the extent that its work is available in conjunction with the development of this Standard. The SDT will not wait for the OLDTF or any other group to complete its work.</p> <p>This proposed standard is being developed in an open process. All SDT meetings are open, and the OLDTF has sent a representative to meet with the SDT to share the work of the OLDTF. The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.</p> <ul style="list-style-type: none"> <li>– The OLDTF requires reporting IRLs that have remained for 30 minutes or longer, while this proposed standard requires reporting each instance where an IROL has been exceeded for its unique <math>T_v</math>.</li> </ul> <p>The data required by the OLDTF is more extensive than the data required by this standard.</p> <p>As part of this open process the SDT will continue with its standard drafting effort and will consider all the comments submitted with each public posting. The NERC standards development process provides ample opportunity for groups such as the OLD task force to contribute to this process.</p>	
<p><b>No – Comments about concepts</b></p>	
<p>William Smith Allegheny Pwr #1</p>	<p>No This graph shows the possibility of an OSL violation occurring for a momentary excursion above a limit without exceeding a limit for a period of time (tdefined). I was not aware that this constituted a violation.</p>
<p>The graph has been revised to omit the bump that crossed into the ‘red’ zone. The definition of an IROL does not include moving outside the yellow zone into the red zone by exceeding a limit by a certain magnitude. In the revised standard, all instances of exceeding an IROL must be documented, but only those instances where an IROL has been exceeded for a duration that is greater than or equal to the IROL’S defined (<math>T_v</math>) time frame must be reported.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>No Operating in such a manner that instability, uncontrolled separation, or cascading outages will not occur to more than a localized area is a non-reportable OSLV</p>
<p>This conforms with the proposed standard. The proposed standard only addresses the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No We agree that operating above the limit and to the right of T-defined is a reportable violation. We do not agree with the concept of having the Facility Ratings Standard adopt a magnitude component to the definition of a SOL violation. We do not believe a momentary or short term deviation above the dotted blue line should be defined as a reportable event. Further, what should be defined as the “limit?” The goal is to prevent operating above a reliability limit, that if exceeded could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. So is the “limit” that value as determined by either the Planning Authority or the RA via their analysis or is it the value that the TOP provides and indicates that he is willing to load his equipment to, recognizing that some TOP’s may specify a value that is less than true reliability limit?</p>

**Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard**

<p>The Facility Ratings SDT did not adopt a mandatory time component for system operating limits, nor did they adopt a definition for the subset of system operating limits addressed in this standard.</p> <p>In the revised standard, the RA is required to identify the subset of its system operating limits that are IROLs, and each of these limits must have a time component.</p> <p>In the revised standard, operating above the blue dotted line is not a reportable event.</p> <p>Under the Functional Model, the RA is assigned the responsibility of developing system operating reliability limits, and the TOP is assigned the responsibility for developing operating limits for local network integrity.</p>	
<p>Doug Hills Cinergy #1</p>	<p>No</p> <p>The red area above the yellow background area is not a violation, violation only exist after predetermined time frame above limit is exceeded, tdefined.</p>
<p>The standard has been revised to reflect this.</p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>I thought that there wasn't an Operating Security Limit Violation until an Operating Security Limit was exceeded for a period of time (tdefined). I wasn't aware of an Operating Security Limit Violation that occurred for an instantaneous exceeding of a limit. Maybe I don't fully understand the Standard. Need to better describe what is a violation versus what is a reportable violation. The concept of a violation in the red zone is confusing.</p>
<p>The charts have been revised as has the standard. Many commenters indicated that exceeding a system operating limit for an instantaneous event should not be a reportable event, and this is what was adopted in the revised standard.</p>	
<p>Mike Miller Southern Co #1</p>	<p>No</p> <p>Operating outside thermal, voltage, or stability criteria that is defined by OSL, but operating such that instability, uncontrolled separation, or cascading outages will not occur to more than localized area as a result of most severe contingency is a non-reportable OSLV.</p>
<p>The standard has been revised to provide a more clear definition of an IROL. IROLs are the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. Under the proposed standard, each case of exceeding an IROL must be logged as an 'event'; each case of exceeding an IROL for a time greater than or equal to <math>T_v</math> must be reported to the Compliance Monitor. Instantaneous instances of exceeding a limit by a large amount must be documented but are not reportable events in the revised standard.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>Cannot agree to this without some indication of the value of "t" in the graph. If "t" is one minute then the graph does not represent a reasonable reportable violation. If "t" is thirty minutes, then the graph may represent a reasonable standard for reporting.</p>
<p>Each RA must establish a <math>T_v</math> for each IROL.</p>	
<p><b>No – Comments about graph details</b></p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No</p> <p>There is not enough information to understand the chart nor to answer this question. What kind of a limit is this? Does violating this limit cause cascading, uncontrolled separation of a significant portion of the Interconnect? If so, then we agree that this is a reportable violation. If this limit is a post-contingent thermal limit that won't cascade far, if at all, then this would not be a reportable violation.</p>

**Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard**

<p>The charts and associated legends and definitions have all been updated in the revised standard. This standard only addresses the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system</p>	
<p>Ken Skroback AL Elec Coop #4</p>	<p>The above graph is unlabeled and I can't tell anything about it</p>
<p>The charts and associated legends and definitions have all been updated in the revised standard. This standard only addresses the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system</p>	
<p><b>No – Comments already addressed in earlier questions</b></p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>No Same as comment #5 <i>{ The above graph is not clearly defined, cannot determine what kind of limit(s) are being demonstrated (thermal, stability). More clarification needed before the question can be answered. Not sure why this is asked in this standard when one of the Explanations of Terms explains that the definitions of system operation limits and operating limit violations is being developed by the Facility Ratings SAR. Shouldn't the definition of a violation eliminate the need to ask this question?}</i></p>
<p>The charts and associated legends and definitions have all been updated in the revised standard. This standard only addresses the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system</p>	
<p>OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>No See comment to Q5 above. <i>{ Please refer to the Operating Limits Definition Task Force report, "NERC Operating Limit Definitions and Reporting." The Task Force considers this report to be an integral part of its comments to Standard Drafting Team. The OLDTF has defined "Limit Compliance Violation" for reporting IRL violations to the Regional Council and NERC.}</i></p>
<p>The SDT is happy to utilize the work of the OLDTF to the extent that its work is available in conjunction with the development of this Standard. The SDT will not wait for the OLDTF or any other group to complete its work.</p> <p>This proposed standard is being developed in an open process. All SDT meetings are open, and the OLDTF has sent a representative to meet with the SDT to share the work of the OLDTF. The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.</p> <ul style="list-style-type: none"> <li>– The OLDTF requires reporting IRLs that have remained for 30 minutes or longer, while this proposed standard requires reporting each instance where an IROL has been exceeded for its unique T<sub>v</sub>.</li> </ul> <p>The data required by the OLDTF is more extensive than the data required by this standard.</p> <p>As part of this open process the SDT will continue with its standard drafting effort and will consider all the comments submitted with each public posting. The NERC standards development process provides ample opportunity for groups such as the OLD task force to contribute to this process.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>See comment in question 5. <i>{ There are too many "irons in the fire" just now. The NERC OC has a task force working on this particular issue, and as indicated in the March OC meeting highlights, have directed the Reliability Coordinators to "field test"</i></p>

**Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard**

<i>the OLDTF's definition and reporting form.}</i>	
<p>The SDT is happy to utilize the work of the OLDTF to the extent that its work is available in conjunction with the development of this Standard. The SDT will not wait for the OLDTF or any other group to complete its work.</p> <p>This proposed standard is being developed in an open process. All SDT meetings are open, and the OLDTF has sent a representative to meet with the SDT to share the work of the OLDTF. The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.</p> <ul style="list-style-type: none"> <li>– The OLDTF requires reporting IRLs that have remained for 30 minutes or longer, while this proposed standard requires reporting each instance where an IROL has been exceeded for its unique T<sub>v</sub>.</li> </ul> <p>The data required by the OLDTF is more extensive than the data required by this standard.</p> <p>As part of this open process the SDT will continue with its standard drafting effort and will consider all the comments submitted with each public posting. The NERC standards development process provides ample opportunity for groups such as the OLD task force to contribute to this process.</p>	
<b>Yes – Comments with suggestions for improving graph</b>	
Toni Timberman BPA #1	<p>Yes</p> <p>If you mean the red slashed zone, then yes. The solid red should be removed as it is irrelevant and confusing.</p>
<p>The charts and associated legends and definitions have all been updated in the revised standard. This standard only addresses the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system</p>	
Francis Halpin BPA Bus Line #5,6	<p>Yes</p> <p>But, the lines and arrows look like they need some more accurate placement</p>
<p>The charts and associated legends and definitions have all been updated in the revised standard. This standard only addresses the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. We've tried to anchor the elements of the charts so they stay where they belong in the latest draft of the standard.</p>	
Joanne Borrell FirstEnergy Sol #3 Ray Morella FirstEnergy #1 Ed Stein Firstenergy Sol #6	<p>Yes</p> <p>The graph is confusing and additional wording should be added to clarify.</p>
<p>The charts and associated legends and definitions have all been updated in the revised standard. This standard only addresses the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system</p>	
<b>Yes – Comments already addressed in earlier questions</b>	
Sam Jones ERCOT #2	<p>Yes/No</p> <p>See our comments on #5 above.</p> <p><i>{ It is unclear which context applies to "reportable violation". If the violation being reported to NERC is the context, then this may be true only if the limit being monitored is an IRL (old OSL). It is true that the graph depicts an operating limit being exceeded. Whether it is reportable depends upon the context of whether it may be internally reportable on a Region basis, or whether it is intended to refer to reportable to NERC.}</i></p>

**Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard**

<p>The standard has been revised to provide a more clear definition of an IROL. IROLs are the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. Under the proposed standard, each case of exceeding an IROL must be logged as an ‘event’; each case of exceeding an IROL for a time greater than or equal to Tv must be reported to the Compliance Monitor. Instantaneous instances of exceeding a limit by a large amount must be documented but are not reportable events in the revised standard.</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>Yes See comment in response to Question #5. <i>{ Some clarification is needed. The System Operating Limit itself can be defined with a magnitude and a time limit, so the magnitude limit can be a step function. E.g., the allowable loading magnitude “X” for a 1-hour limit would be higher than the allowable loading “Y” for a 4-hour limit, so there should be a violation only if the yellow portion is above “X” for more than 1 hour, or above “Y” for more than 4 hours.}</i> Also, it is not clear what is the basis of the “red zone” above the “yellow” zone in the time period to –defined</p>
<p>The charts and associated legends and definitions have all been updated in the revised standard. This standard only addresses the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>When the RA identifies which of its system operating limits will be IROLs, the RA must also identify a duration component for each IROL. The duration component may be different for each limit. Here’s how this would apply to the example in this comment.</p> <p>First, the RA would need to look at limit X with its 1-hour limit and determine if exceeding this limit could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. Assume the RA did find that X is an IROL. The RA would then determine how long X could be exceeded (beyond its already identified 1 hr) before it risked instability, uncontrolled separation, or cascading outages. The duration that represents the RA’s ‘acceptable risk’ is the Tv assigned to the IROL. For this example, let’s assume Tv is 10 minutes.</p> <p>Taking the example a bit further, the RA would document when it exceeded X for 1 hr, but would not need to report the event unless X’s 1-hr limit were exceeded for a time period equal to or greater than Tv or 10 minutes.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>Yes see comment for #5. <i>{Based on the above graph the terminology used is correct. However Manitoba Hydro believes that the concept of operation related to operating limits and reportable violations should be defined by the Standard Drafting Team for Standard “Determine Facility Ratings, System Operating Limits, and Transfer Capabilities”. The concepts that they develop should then be integrated in this Standard}</i></p>
<p>The Determine Facility Ratings, System Operating Limits and Transfer Capabilities SAR did not include a definition of the subset of system operating limits being addressed in this standard. The revised standard does include use of the new term, “Interconnection Reliability Operating Limits.” The definition for this new term will be posted for public comment with the draft standard. This standard does support the definition of system operating limits established with the Determine Facility Ratings SAR.</p>	
<p><b>Yes – Comments with suggestions for improving definitions</b></p>	
<p>Stuart Goza TVA #1</p>	<p>Yes Assuming that the term “limit” is appropriately defined.</p>
<p>The revised standard includes a clear definition of the subset of system operating limits called interconnection reliability operating limits, that are applicable to this standard.</p>	

**Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard**

Lloyd Linke MAPP #2	Yes It should further be clarified that operation in such a zone is a violation regardless of whether or not instability/cascading outages happened or could have happened – if the limit was exceeded for the specified time, it is a reportable violation under any prevailing system conditions.
<a href="#">This conforms with the concepts presented in the latest version of the standard.</a>	
Dilip Mahendra SMUD #1	Yes Provided it is for a facility that is covered by the purpose of this standard. That is, if it is violating an operating limit established to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.
<a href="#">This conforms with the concepts presented in the latest version of the standard.</a>	
Charles Yeung Reliant #6	The Red region represents a condition where the system has operated beyond some specified time period in which the industry has agreed it will try to alleviate the excursion. The “reportable violation” is defined in conjunction with both the MW amount and the “t defined”. The “t defined” should be a value that is proposed and commented on in the development of the Operate Within Limits Standard.
<a href="#">Under the proposed standard, each RA is required to establish a <math>T_v</math> for each of the system operating limits that RA identifies as interconnection reliability operating limits. <math>T_v</math> is not expected to be the same number for every limit.</a>	
Ed Riley CA ISO #2 Fred Frederick Vectren #3 James Stanton Calpine #5 Kim Warren IMO #2 Tony Jankowski We-Energies #4 Joe Minkstein PG&E #5 Kathleen Goodman ISO NE #2 Darrel Richardson Illinois Power #1, 3 Alan Johnson Mirant #6 Alan Boesch NPPD #1 Albert M. DiCaprio MAAC #2 Richard Schwarz PNSC #2 Richard Kafka Pepco #1 Roman Carter So Co Gen 3,5,6 (6 members)	Yes

## **Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard**

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7. If you feel there are additional terms used in this draft standard that should be formally defined, please list those terms here. If possible, please provide us with a definition for each of these terms.

### **Summary Consideration:**

Many of the terms suggested are terms that have not been used in the revised standard. The terms used in the revised standard have been defined and the definitions will be posted for public comment when the revised standard is posted.

The draft definitions that were requested for terms used in the revised standard are:

### **Bulk Electric System**

A term commonly applied to the portion of an electric utility system that encompasses the electrical generation resources and bulk transmission system

### **Cascading Outages**

The uncontrolled successive loss of system elements triggered by an incident at any location. Cascading results in widespread service interruption, which cannot be restrained from sequentially spreading beyond an area predetermined by appropriate studies.

### **Documentable Interconnection Reliability Operating Limit Violation**

An instance of exceeding an interconnection reliability operating limit for any length of time.

### **Generator Owner**

The entity that owns the generator.

### **Instability**

The inability of the transmission system to maintain a state of equilibrium during normal and abnormal system conditions or disturbances

### **Interconnection Reliability Operating Limit**

A system operating limit that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. The reliability authority must log each case of exceeding an interconnection reliability operating limit, and must report (to its compliance monitor) each case of exceeding an interconnection reliability operating limit for a time greater than or equal to  $T_v$ . Note that  $T_v$  may be zero.

### **Interconnection Reliability Operating Limit Violation**

Any instance of exceeding an interconnection reliability operating limit for any length of time.

### **Monitor**

To scan various data sources and draw conclusions about what the data indicates.

### **Occurrence period (Performance-reset Period)**

The time period in which performance is measured, evaluated, then reset.

### **Operational Planning Analysis**

An analysis of the expected system conditions, given the peak load forecast(s), known system constraints such as facility outages, and generator outages and limitations, etc. The analysis should ensure that no interconnection reliability operating limits will be exceeded during expected normal operation. An operational planning analysis is done up to seven days ahead of the expected conditions.

## Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard

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### Real-time

Immediate time as opposed to future time.

### Real-time Assessment

An evaluation conducted by collecting and reviewing immediately available data to determine the status of the electric system. The reliability authority uses real-time data to conduct its real-time assessment.

### Real-time Data

Real-time measured values, state estimator values derived from the measured values, or other calculated values derived from the measured values – may include directly monitored data, Inter-utility data exchange (e.g., Interconnection Control Area Communication Protocol and or SCADA Data), and manually collected data

### Reliability Authority Area

A defined electrical system bounded by interconnection (tie-line) metering and telemetry under the control of a single Reliability Authority.

### Reportable Interconnection Reliability Operating Limit Violation

An instance of exceeding an interconnection reliability operating limit for time greater than or equal to the interconnection reliability operating limit's  $T_v$ .

### Self-certification

A process whereby an entity submits a form to its compliance monitor, indicating that the entity is in compliance with a specific requirement or set of requirements for a reliability standard.

Self-certification forms generally require the signature of an officer of the corporation. Most self-certification forms are completed on an annual basis although they may be required more often

### Transmission Operator

The entity that provides transmission services to qualified market participants under applicable transmission service agreements.

### Uncontrolled Separation

The unplanned break-up of an interconnection, or portion of an interconnection, that is not the result of automatic action by a Special Protection System or Remedial Action Scheme operating correctly.

OLDTF (9?) 6 - #2 1 - #1,5	Instability Uncontrolled Separation Cascading Outages Widespread Area Local Area The OLDTF has defined these terms in its attached report. The OC has directed the Reliability Coordinators to use these definitions as a "field test" this summer, and to work with the Standard Drafting Team to incorporate these definitions into the Reliability Standard.
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**Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard**

<p>The OLDTF report provided to the SDT did not contain a definition of instability, uncontrolled separation, or cascading outages. The terms, widespread area, and local area are not used in the revised standard. The following terms have been defined and will be posted with the revised standard: instability, uncontrolled separation and cascading outages.</p>	
<p>Toni Timberman BPA #1</p>	<p>REAL Surrogate (requirement 2) DATA “Problems” (requirement 10)</p>
<p>The terms, ‘real’ and ‘data’ are not used in isolation in the revised standard. Definitions have been provided for ‘real-time’, ‘real-time assessment’ and ‘real-time data’. The terms surrogate and problems are not used in the revised standard.</p>	
<p>Todd Lucas (6?) Mike Miller Southern Co #1</p>	<p>Non-reportable Operating Security Limit Violation Reportable Operating Security Limit Violation Non-Reportable OSLV: Operating outside the thermal, voltage, or stability criteria that defines the Operating Security Limit, but operating such that instability, uncontrolled separation, or cascading outages will not occur to more than a localized area as a result of the most severe single contingency. Reportable OSLV : Operating outside the thermal, voltage, or stability criteria that defines the Operating Security Limit, such that instability, uncontrolled separation, or cascading outages could occur to a widespread area as a result of the most severe single contingency.</p>
<p>The terms non-reportable Operating Security Limit Violation and Reportable Operating Security Limit Violation are not used in the revised standard.</p>	
<p>Susan Morris SERC #2  Robert Reed TS (See List)</p>	<p>Real Time Self-Certification Instability Cascading Outages Uncontrolled Separation Actual telemetered data, or real-time data? Real-Time Monitoring Frequency of Real-Time Monitoring System Operator Limits System operator limits as defined is appropriate for RAs, but should not be defined as provided for TOPs. For TOPs, system operating limits should not include only those limits which have been identified as leading to cascading outages, instability, or uncontrolled separation. This is a major issue in terms of the scope. As conceived, this standard does not result in any entity assuring that bulk power system is operating within limits. It only results in operating within those limits for which violations result in instability/cascading outage risk. That is inappropriate. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby requiring consistent monitoring and adherence, should be covered by this standard.</p>
<p>Real-time, self-certification, instability, cascading outages, uncontrolled separation, real-time data, and monitoring are used in the revised standard and have been defined. The revised standard does not use the following terms: System operator limits, actual telemetered data or frequency of real-time monitoring. The revised standard uses the term, ‘interconnection reliability operating limits’ to define the subset of system operating limits that, if exceeded, could lead to instability, cascading outages or uncontrolled separation that adversely impact the transmission system.</p>	

**Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard**

<p>Thomas Pruitt Duke #1</p>	<p>Real Time Self-Certification Instability Cascading Outages Uncontrolled Separation Actual telemetered data, or real-time data? Real-Time Monitoring Frequency of Real-Time Monitoring System Operator Limits Equipment Ratings For TOPs, system operating limits should not only include those limits which have been identified as leading to cascading outages, instability, or uncontrolled separation, but also local operating limits. This is a major issue in terms of the scope. As conceived, this standard does not result in any entity assuring that the bulk power system is operating within limits. It only results in operating within those limits for which violations result in instability/cascading outage risk. That is inappropriate. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby requiring consistent monitoring and adherence, should be covered by this standard.</p>
<p>Real-time, self-certification, instability, cascading outages, uncontrolled separation, real-time data, and monitoring are used in the revised standard and have been defined. The revised standard does not use the following terms: System operator limits, actual telemetered data, frequency of real-time monitoring, equipment ratings.</p> <p>The revised standard uses the term, 'interconnection reliability operating limits' to define the subset of system operating limits that, if exceeded, could lead to instability, cascading outages or uncontrolled separation that adversely impact the transmission system.</p>	
<p>Stuart Goza TVA #1</p>	<p>NERC OC has a special task force, the Operating Limit Definition Task Force that is specially addressing definitions for System Operating Limit and Interconnected Reliability Limit. The results of this task force, if approved by NERC OC should be reflected in the terminology used in this standard.</p> <ol style="list-style-type: none"> <li>(1) Define uncontrolled separation</li> <li>2. Define uncontrolled cascading</li> <li>3. Define controlled separation</li> <li>4. Define controlled cascading</li> <li>5. Define instability</li> <li>6. Define System Operating Limit</li> <li>7. Define System Operating Limit Violation</li> <li>8. Define Interconnected Reliability Limit</li> <li>9. Define Interconnected Reliability Limit Violation</li> <li>10. Facility Rating Methodology and Triggering Criteria for above conditions</li> <li>11. RA, BA, IA roles need to be clarified</li> </ol>

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<p>The following terms are not used in this standard and have not been defined: Uncontrolled cascading, controlled separation, controlled cascading, system operating limit, system operating limit violation, interconnected reliability limit, interconnected reliability limit violation. The facility rating methodology is being addressed by the standard, Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. Clarification of the RA, BA and IA roles may be found in the Functional Model.</p> <p>The following terms are used in the revised standard and a definition has been provided with the revised standard: Uncontrolled separation, cascading outages, instability.</p>	
<p>Sam Jones ERCOT #2</p>	<p>Instability Uncontrolled Separation Cascading Outages Widespread Area Local Area</p> <p>ERCOT has been participating in the NERC Operating Limit Definition Task Force. Please refer to the Task Force Report. The NERC OC has endorsed the recommendations of the Task Force and has directed the Reliability Coordinators to use these definitions as a “field test” this summer, and to work with the Standard Drafting Team to incorporate these definitions into the Reliability Standard.</p>
<p>The OLDTF report provided to the SDT did not contain a definition of instability, uncontrolled separation or cascading outages. The terms, widespread area and local area are not used in this standard.</p> <p>The following terms have been defined and will be posted with the revised standard: instability, uncontrolled separation and cascading outages.</p>	
<p>Ray Morella Ed Stein Joanne Borrell FirstEnergy #1, 3, 6 ECAR Ops Panel #1 – 8, #5 – 1, #2 – 2</p>	<p>(2) Occurrence Period, (2) Operating Security Limit Violation (3) Occurrence Period – Not sure what you mean when you refer to an Occurrence Period, need better definition (2) Operating Security Limit Violation – A limit that results in instability, uncontrolled separation, or cascading outages if exceeded for more than one hour. We believe this definition is appropriate for the existings NERC template on Operating Security Limit Violation.</p>
<p>The following terms are not used in the standard: Operating Security Limit Violation</p> <p>The following term is used in the Compliance Sanctions Table and has been defined: Occurrence period.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>Identified problem Identified problem: Does the term “identified problem” as used in this standard refer to a problem identified through reliability analysis, either for actual conditions or on a first contingency basis, that if it were to occur could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system or does it also include thermal overloads and voltage conditions that do not lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system?</p>
<p>The term, ‘identified problem’ was not used in the revised standard.</p>	
<p>Peter Burke ATC #1</p>	<p>“Technically accurate” “Single contingency.” This standard needs to precisely define “single contingency.” This standard, built on the premise of monitoring and assessing short term reliability, nowhere mentions the documentation or reporting of contingencies. Within the Sanctions Table, how, precisely, does the enforcement entity interpret</p>

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	<p>the phrase “greater of 4<sup>th</sup> consecutive period of violations?”</p> <p>What are the “MW” that the fines per MW are based on? Is this the amount of MW affected or the estimated MW affected in the event of the next contingency? Can a fine be levied for the risk posed by a next contingency that threatens a large region even if the event of concern never occurs?</p> <p>The section “Fixed Dollars,” near the end of the standard, describes in very vague language how monetary sanctions may be adjusted. Left unsaid is who makes the adjustments, upon whose approval, and under what circumstances. The whole standard is put at risk of losing its meaning if this section is left in its current form.</p> <p>It would be of value to include brief descriptions of the different functional areas, along with indication as to who does what, in the standard with a reference to the official definitions that are documented elsewhere. Such a reference would be helpful for someone not intimately involved with the standard or, particularly, the NERC Functional Model.</p> <p>The use of the words “steam generator” in footnote 1 of Version B seems inconsistent with the industry accepted meaning of those words.</p> <p>“Technically accurate” to the extent that the data supplied is consistent with the supplier’s documented methodologies and criteria.</p>
<p>The following terms are not used in the revised standard: <a href="#">technically accurate</a>, <a href="#">single contingency</a>.  The questions about the compliance program are outside the scope of the SDT. They will be forwarded to the Director-Compliance.  Standards Drafting Teams are responsible for drafting the Compliance Monitoring Process for each standard, and for identifying Levels of Non-compliance. The Sanctions table is referenced in each standard, but is updated as needed as part of the Compliance Program.  The footnote referenced has been dropped from the revised standard.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>Surrogate Value needs to be defined.  Supporting Documentation needs to be defined</p> <p>System operator limits as defined herein is appropriate for RAs, but should not be defined as provided herein for TOPs. For TOPs, system operating limits should not include only those limits which have been identified as leading to cascading outages, instability, or uncontrolled separation. This is a major issue in terms of the scope. As conceived herein, this standard does not result in any entity assuring that the bulk power system is operating within limits, it only results in operating within those limits for which violations result in instability/cascading outage risk. That is inappropriate. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby requiring consistent monitoring and adherence, should be covered by this standard.</p>
<p>The following terms are not used in the revised standard: <a href="#">surrogate data</a>, <a href="#">supporting documentation</a> <a href="#">system operator limits</a></p>	
<p>Kim Warren IMO #2</p>	<p>Local Areas  Reliability Authority Area  Wide Area</p> <p>Clearly differentiate between electrical areas that can cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system and those areas that don’t (Local Areas).</p> <p>Reliability Authority Area consists of one or more Control Areas for which a single Reliability Authority is responsible.</p> <p>A Wide Area impact is one that goes beyond the Reliability Authority Area.</p>

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<p>The following terms are not used in the revised standard: local areas, wide area.</p> <p>This term, Reliability Authority Area is from the Functional Model and a draft definition has been developed and will be posted with the revised standard.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>Generator Owner “real” data real-time</p>
<p>The term ‘real’ data isn’t used in the revised standard.</p> <p>The term, “generator owner” is from the revisions currently being made to the Functional Model. The draft definition will be posted with the revised standard.</p> <p>The term real-time has been defined and will be posted with the revised standard.</p>	
<p>Joseph Buch Madison #4</p>	<p>See comments on question 3.</p> <p><i>{ My understanding of the process is that for a RA or TOP to be certified they would need to demonstrate among other things that they already have the required “base” data. Thus this standard only covers changes/new additions. However, the standard does not define what is existing. Included in the standard should be a definition of existing facilities. It is recommended that the following or something similar be added to clearly define existing facilities. “Facilities that are already energized as of the day the standard is approved or the date the RA or TOP is certified are considered existing facilities.” }</i></p>
<p>The revised Certification SARs do not contain a requirement that addresses ‘base data’. This standard was revised to include the provision of all data needed by the RA to monitor and assess its system relative to IROs.</p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>“Planned for Contingencies” “Planned for Contingencies” as opposed to contingencies beyond criteria need to be included in this standard. It is common practice to only run operational reliability analysis by applying the “Planned for Contingencies” to the current system configuration. By not specifically addressing “Planned for Contingencies” the standard appears to require running multiple contingencies to find the unstable operating point.</p>
<p>The term, ‘planned for contingencies’ was not used in the revised standard.</p>	
<p>ECAR Ops Panel #1 – 8, #5 – 1, #2 – 2</p>	<p>(4) Transmission Operator</p>
<p>The term, ‘ Transmission Operator’ is from the Functional Model. The definition will be posted with the revised standard.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>Real Time Self-Certification Compliance Reset Period Instability Cascading Outages Uncontrolled Separation The Compliance reset period should be defined as 12 months without a violation from the time of the last violation. Either provide a definition with “actual telemetered data” or replace it with “real time data”, throughout this document.</p>

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<p>The following terms have been defined and will be posted with the revised standard: real-time, self-certification, performance-reset period, instability, cascading outages, uncontrolled separation.</p> <p>The term, 'compliance-reset period' was replaced with 'performance-reset period.' The performance reset period is not a constant – it is intended to vary with the type of performance being assessed.</p> <p>The term, 'actual telemetered data' was not used in the revised standard.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>Real-time Data Self-Certification Operational Analysis Planning Analysis Real Time Analysis</p>
<p>The following terms are not used in the revised standard: Operational analysis, planning analysis, real-time analysis.</p> <p>The following terms are used in the revised standard and the draft definitions will be posted with the revised standard: real-time data, self-certification, operational planning analysis, real-time assessment.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>Operational Planning Studies</p>
<p>The term, 'operational planning studies' was replaced with 'operational planning analyses' and a draft definition will be posted with the revised standard.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>Self Certification The various types of "data" referred to in the standard. The standard should be very specific about what type of data is acceptable.</p>
<p>The term, self-certification was defined and the draft definition will be posted with the revised standard. The revised standard provides more clarity with respect to the type of data being addressed.</p>	
<p>Ed Riley CA ISO #2</p>	<p>Problem versus violation Problem = exceed limits but not for defined time, there for it is not a reportable event. Violation = exceed limit for defined time, there for it is a reportable event.</p>
<p>The term, 'problem' is not used in the revised standard.</p> <p>As used in this standard, a violation is any instance of exceeding an IROL for a time greater than or equal to the IROL's <math>T_v</math>. The term, IROL Violation has been defined and the draft definition will be posted with the revised standard.</p>	
<p>Alan Boesch NPPD #1</p>	<p>Actual data Actual telemetered data</p>
<p>The terms, 'actual data' and 'actual telemetered data' are not used in the revised standard.</p>	

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**8. Who should provide the RA with generation data needed for system analyses? (This data consists of the generator operational characteristics.) (BA, TOP, Gen, PA)**

**Summary Consideration:**

The general consensus of those commenters responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.

Stuart Goza TVA #1 Fred Frederick Vectren #3	BA
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model does not require that the entity serving as the BA even have a generator, therefore the BA could not serve as the default function for providing generator data. The BA could in some cases be a source to transmit that data but cannot be assigned the default responsibility.</p>	
Tom Petrich (5) PG&E #1	TOP It would also be acceptable for the generator to provide identical data concurrently to the TOP and the RA. Our recommendation is to minimize any possibility of the TOP and the RA having conflicting data.
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p>	
Sam Jones ERCOT #2 OLDTF (9?) 6 - #2 1 - #1,5	BA, TOP, Gen, PA In ERCOT, the TOP does not receive all of the generator data; some is provided to the TOP in an Interconnection Agreement, but more is required to be provided to ERCOT in its role as the RA. The BA may well provide the data if the generators are under a contractual obligation to do so with the BA. The Generator Owner and the Transmission Owner provides data for their facilities.
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model does not require that the entity serving as the BA even have a generator, therefore the BA could not serve as the default for providing generator data. The BA could in some cases be a source to transmit that data but cannot be assigned the default responsibility.</p> <p>The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p>	
Joe Minkstein PG&E #5	TOP

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<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p>	
<p>Joanne Borrell FirstEnergy Sol #3</p>	<p>Gen</p> <p>The Generator is the best possible resource. However, as long as the data is accurately supplied, it doesn't matter who supplies it. I don't think the standard should be too prescriptive on who supplies the data.</p>
<p>The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>Gen</p> <p>With regards to this and subsequent references to "Generator"; the Functional Model has recently been expanded (in draft at least) to include Generator Owners and Generator Operators. This standard should refer to those particular entities when making requirements for Generators.</p>
<p>Agreed. The revised standard uses the term, Generator Owner to conform with the expected changes to the Functional Model and to align with the proposed requirement in the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard that assigns responsibility for establishing facility ratings with the owners of facilities.</p>	
<p>Ed Stein Ray Morella FirstEnergy #1, 6 ECAR Ops Panel #1 – 8, #5 – 1, #2 – 2</p>	<p>Gen</p> <p>The Generator is the entity closest to the physical facilities so he should be the best possible resource. However, the Reliability Coordinator (RC) should use data from the BA, the TOP, or the Planning Authority, if he can't get the data from the Generator. The Generator also may prefer to supply all his data via the BA or the TOP. This should be allowed. As long as the data is accurately supplied, it doesn't matter who supplies it. I don't think the standard should be too prescriptive on who supplies the data.</p>
<p>The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p>	
<p>Joseph Buch Madison #4</p>	<p>Gen</p> <p>There should only be a single area responsible for maintaining data necessary for system analysis. The more often the same data is requested by multiple entities the more likely errors can occur. Also, the more often data is passed from entity to entity the more often errors can also occur. I would recommend that the RA be the central location for all data. All requests for data should go to the RA who would provide all responses.</p>
<p>This standard's scope is restricted to those elements that were defined during the development of the associated SAR. The requirements established within this standard must remain within the defined scope of the SAR. The scope of this standard is limited to the system analyses that identify possible or actual instances of exceeding interconnection reliability operating limits – and these analyses are performed by the RA, not the TOP. This is reflected in the revised standard.</p>	

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Gerald Rheault Manitoba #1,3,5,6	Gen Manitoba Hydro believes that the generator owner must provide this data since as owner of the asset he is responsible for protecting that asset and establishing ratings consistent with the risk level he is willing to assume.
Agreed. The revised standard uses the term, Generator Owner to conform with the expected changes to the Functional Model. This also aligns with the proposed requirement in the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard that assigns responsibility for establishing facility ratings with the owners of facilities.	
Lloyd Linke MAPP #2	Gen A single source for this data is desired.
Agreed. The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.	
Doug Hils Cinergy #1	Gen Generator would be the best being they are the owners of the data. Standard however should allow for the data to be provided to a TOP and then relayed to the RA.
The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.	
Alan Boesch NPPD #1	Gen The Generator should be responsible for getting the data to the RA. How it is accomplished should not be an issue. I would guess that in most situations it will be supplied by Planning.
Agreed. The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, Planning Authority or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.	
Albert M. DiCaprio MAAC #2	Gen Generator Operator is the responsible party.
Under the proposed revisions to the Functional Model, this responsibility is assigned to the Generator Owner, rather than the Generator Operator.	
Richard Schwarz PNSC #2 Toni Timberman BPA #1	Gen Generator Owner or Operator should provide the unit characteristics and the real time data

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<p>Kim Warren IMO #2  Ken Skroback AL Elec Coop #4  William Smith Allegheny Pwr #1  Todd Lucas (6?) Southern Co #1  John Blazekovich Exelon #1,3,5,6  Ed Riley CA ISO #2  Dilip Mahendra SMUD #1  Alan Johnson Mirant #6  James Stanton Calpine #5  Richard Kafka Pepco #1  Kathleen Goodman ISO NE #2</p>	<p>Gen</p>
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p>	
<p>Roger Green  Southern Co #5</p>	<p>PA  Regardless of who receives and distributes the data, the generator owner should only have to provide the data to one group.</p>
<p>The issue of RA vs PA needs to be resolved. The PA has not been formalized within the Functional Model (although it has been drafted and debated) The DT cannot resolve that issue and therefore will forward your comment to the Functional Model Review Task Group.</p>	
<p>Vern Colbert Dominion #1  Mike Miller Southern Co #1</p>	<p>BA, Gen</p>
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model approach ( to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p>	
<p>Darrel Richardson  Illinois Power #1, 3</p>	<p>BA, Gen  Although we checked both the BA and the Generator as possible sources, we feel that the information provided to the RA should be supplied by the Generator with a carbon to the BA.</p>
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model does not require that the entity serving as the BA even have a generator, therefore the BA could not serve as the default for providing generator data. The BA could in some cases be a source to transmit that data but cannot be assigned the default responsibility.</p> <p>The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p> <p>This standard is restricted to the requirements identified in the scope of the associated SAR. The proposal that data be sent to the BA is outside the scope of what could be addressed within this standard.</p>	
<p>Roman Carter So Co Gen 3,5,6</p>	<p>BA, Gen, PA</p>

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(6 members)	
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model does not require that the entity serving as the BA even have a generator, therefore the BA could not serve as the default for providing generator data. The BA could in some cases be a source to transmit that data but cannot be assigned the default responsibility.</p> <p>The Functional Model approach ( to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p> <p>The issue of RA vs PA needs to be resolved. The PA has not been formalized within the Functional Model (although it has been drafted and debated) The DT cannot resolve that issue and therefore will forward your comment to the Functional Model Review Task Group.</p>	
Gregory Campoli NY ISO #2	Gen, PA The RA should be able to cross check data used by the Planning Authority with current data provided by the Generator.
Tony Jankowski We-Energies #4 Lee Xanthakos SCE&G #1 Lee Westbrook Oncor #1	Gen, PA
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model approach ( to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p> <p>The issue of RA vs PA needs to be resolved. The PA has not been formalized within the Functional Model (although it has been drafted and debated) The DT cannot resolve that issue and therefore will forward your comment to the Functional Model Review Task Group.</p>	
FRCC 6-#1, 4-#2, 1-#2	BA, TOP, Gen
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model does not require that the entity serving as the BA even have a generator, therefore the BA could not serve as the default for providing generator data. The BA could in some cases be a source to transmit that data but cannot be assigned the default responsibility.</p> <p>The Functional Model approach ( to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p>	
Susan Morris SERC #2 Robert Reed TS (See List)	TOP, Gen Are you referring to Generator Owner or Generator Operator or both above?

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<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p>	
<p>Thomas Pruitt Duke #1</p>	<p>TOP, Gen, PA</p> <p>The term generator needs to clearly specify that entity responsible for the generator resources. The real-time generator data should be provided by the generator to the TOP and RA; modeling data should be provided by the generator to the PA and RA.</p>
<p>Raj Rana AEP #1,3,5,6</p>	<p>TOP, Gen, PA</p> <p>The Generator is the best possible resource to provide the data. The Generator must have an interconnection agreement with a TOP, and said agreement should require the Generator to provide this information. Thus, the RA should be able to receive this type of information from the TOP. The PA should also have this information, which they may have received from the TOP or the Generator directly.</p>
<p>Guy Zito (See List) NPCC #2 – 2, NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>TOP, Gen, PA</p>
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p> <p>The issue of RA vs PA needs to be resolved. The PA has not been formalized within the Functional Model (although it has been drafted and debated) The DT cannot resolve that issue and therefore will forward your comment to the Functional Model Review Task Group.</p>	
<p>Peter Burke ATC #1</p>	<p>BA, TOP, Gen, PA</p> <p>Generator should supply the current machine capabilities, including derating of MW or MVAR output capability.</p> <p>Planning Authority should supply the full dynamics descriptions to be used in the off-line models.</p> <p>All play a part in providing the proper data and depends upon the NERC Functional Model in place. Experience at ATC has shown this can be difficult with regard to keeping everyone informed and determining who is non-compliant or responsible for declaring an entity in non-compliance. ATC, especially, has had trouble keeping current on ownership of IP generators and working with the Regional Council to obtain timely generator data.</p> <p>The Generator Operator/Owner should have this data and should be responsible for providing it to the RA. The Gen owner will be aware of changes to their equipment that others, including the Transmission Owner/Operator, would not be aware of. Also, from a liability standpoint, if you make someone else responsible for providing the data, what authority do they have to request it and who is liable for any costs incurred if the data is lost? In many cases, the TOP will also need</p>

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	<p>the Generation data to perform their duties. In that case, it may be acceptable for the TOP to provide the data to the RA assuming all liability issues have been addressed.</p>
<p>Karl Kohlrus CWL&amp;P #5</p>	<p>BA, TOP, Gen, PA</p>
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model does not require that the entity serving as the BA even have a generator, therefore the BA could not serve as the default for providing generator data. The BA could in some cases be a source to transmit that data but cannot be assigned the default responsibility.</p> <p>The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p> <p>The issue of RA vs PA needs to be resolved. The PA has not been formalized within the Functional Model (although it has been drafted and debated) The DT cannot resolve that issue and therefore will forward your comment to the Functional Model Review Task Group.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>The question should be restated to conform to the parenthetical statement – Who should provide the RA with generator operational characteristic data needed for system analyses? The Generator Owner function (consistent with the Revised Functional Model) should provide the generator data necessary for system analysis and operational performance to any and all functions needing that data, including the RA. If needed, the RA may request the necessary generator data from the Transmission Owner to whom the Generator Owner should be obligated to provide the data as part of its interconnection and operating agreement with the Transmission Owner.</p>
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>The generator operational characteristics are needed for many purposes and this information may be needed by others besides the RA. NERC should require a single coordination point for the submittal of this information. One must not be required to submit this same information repeatedly to different entities or “authorities”. E.g. – if there is already a requirement for generator operational characteristics to be supplied to the Planning Authority, then the PA may be authorized to provide it to the RA. Data confidentiality agreements may apply.</p>
<p>The general consensus of those people responding to this question is that the Generator Owner should have the responsibility to ensure that the generator data needed for reliability is provided to the Reliability Authority.</p> <p>The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world T-Oper, Control Area, or Reliability Coordinator may serve to transmit that data from the generator to the RA – but the Generator Owner would still be held responsible that that function get carried out.</p>	

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### 9. Who should provide the TOP with generation data needed for system analyses? (This data consists of the generator operational characteristics.) (RA, BA, Gen, PA)

#### Summary Consideration:

Although there is no clear consensus on which functional entity should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analyses. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.

Albert M. DiCaprio MAAC #2	RA In the framework of the Functional Model, the TOP in its role as TOP does not have the responsibility for doing system analysis. To the extent that the TOP does local analysis that information must come from the RA (unless the TOP has its own agreements to access that data.)
Alan Johnson Mirant #6	RA Under certain circumstances (for example during the interconnection process) it is probably more efficient for the generator to provide information directly to the TOP. Generally, however, the flow of information should be retained.
Joseph Buch Madison #4	RA See question 8. <i>{ There should only be a single area responsible for maintaining data necessary for system analysis. The more often the same data is requested by multiple entities the more likely errors can occur. Also, the more often data is passed from entity to entity the more often errors can also occur. I would recommend that the RA be the central location for all data. All requests for data should go to the RA who would provide all responses.}</i>
Richard Kafka Pepco #1	RA
James Stanton Calpine #5	RA
Although there is no clear consensus on which functional entity (the RA or Gen) should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analysis. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.	
Fred Frederick Vectren #3	BA
Stuart Goza TVA #1	BA
The Functional Model does not require that the entity serving as the BA even have a generator, therefore the BA could not serve as the default for providing generator data. The BA could in some cases be a source to transmit that data but cannot be assigned the default responsibility.	
Toni Timberman BPA #1 Richard Schwarz PNSC #2	Gen The generator Owner or Operator should provide the unit characteristics and the real-time data.
Joanne Borrell FirstEnergy Sol #3	Gen The Generator is the best possible resource. As long as the data is accurately supplied I don't care who supplies it. I don't think the standard should be too proscriptive on who supplies the data.

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Thomas Pruitt Duke #1 Susan Morris SERC #2 Robert Reed TS (See List)	Gen 6 What do you mean by “system analysis”? 2) What type of “system analysis” is the TOP supposed to perform? 3) Are you referring to Generator Owner or Generator Operator or both above?
ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2 Ray Morella Ed Stein FirstEnergy #1, 6	Gen The Generator is the entity closest to the physical facilities so he should be the best possible resource. However, the TOP should use data from the Reliability Coordinator (RC), the BA, or the Planning Authority if he can’t get the data from the Generator. The Generator also may prefer to supply all his data via the BA or the RC. This should be allowed. As long as the data is accurately supplied I don’t care who supplies it. I don’t think the standard should be too proscriptive on who supplies the data.
Raj Rana AEP #1,3,5,6	Gen Should be required via the TOP’s interconnection agreement with the Generator.
Lloyd Linke MAPP #2	Gen A single source for this data is desired
Gerald Rheault Manitoba #1,3,5,6	Gen See comment in #8 <i>{ Manitoba Hydro believes that the generator owner must provide this data since as owner of the asset he is responsible for protecting that asset and establishing ratings consistent with the risk level he is willing to assume.}</i>
Alan Boesch NPPD #1	Gen The Generator should be responsible for getting the data to the RA. How it is accomplished should not be an issue. I would guess that in most situations it will be supplied by Planning.
Francis Halpin BPA Bus Line #5,6	Gen See #8 re: Gen Operator/Gen Owner <i>{ With regards to this and subsequent references to “Generator”; the Functional Model has recently been expanded (in draft at least) to include Generator Owners and Generator Operators. This standard should refer to those particular entities when making requirements for Generators.}</i>
Doug Hils Cinergy #1	Gen Providing data to the TOP would allow redundancy in the communication paths to the RA.

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<p>Ed Riley CA ISO #2  Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5  Dilip Mahendra SMUD #1  Lee Xanthakos SCE&amp;G #1  Tom Petrich (5) PG&amp;E #1  Todd Lucas (6?) Southern Co #1  FRCC 6-#1, 4-#2, 1-#2  William Smith Allegheny Pwr #1  Kim Warren IMO #2  Kathleen Goodman ISO NE #2  Karl Kohlrus CWL&amp;P #5  Joe Minkstein PG&amp;E #5</p>	<p>Gen</p>
<p>Although there is no clear consensus on which functional entity should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analysis. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.</p>	
<p>Roger Green  Southern Co #5</p>	<p>PA  See comment on #8.  <i>{ Regardless of who receives and distributes the data, the generator owner should only have to provide the data to one group. }</i></p>
<p>Mike Miller  Southern Co #1</p>	<p>PA</p>
<p>Although there is no clear consensus on which functional entity should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analysis. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.</p> <p>The issue of PA needs to be resolved. The PA has not been formalized within the Functional Model (although it has been drafted and debated) The DT cannot resolve that issue and therefore will forward your comment to the Functional Model Review Task Group.</p>	
<p>John Blazekovich  Exelon #1,3,5,6</p>	<p>RA, Gen  Either entity is OK</p>
<p>David Kiguel Hydro One #1  Ken Skroback AL Elec Coop #4</p>	<p>RA, Gen</p>
<p>Although there is no clear consensus on which functional entity (the RA or Gen) should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analysis. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.</p>	
<p>Darrel Richardson  Illinois Power #1, 3</p>	<p>BA, Gen  Although we checked both the BA and the Generator as possible sources, we feel that the information provided to the RA should be supplied by the Generator with a carbon to the BA.</p>
<p>Roman Carter  So Co Gen 3,5,6  (6 members)</p>	<p>BA, Gen</p>

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<p>Although there is no clear consensus on which functional entity (the RA or Gen) should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analysis. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.</p> <p>The Functional Model does not require that the entity serving as the BA even have a generator, therefore the BA could not serve as the default for providing generator data. The BA could in some cases be a source to transmit that data but cannot be assigned the default responsibility.</p>	
Vern Colbert Dominion #1	RA, BA, Gen
<p>Although there is no clear consensus on which functional entity (the RA or Gen) should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analysis. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.</p> <p>The Functional Model does not require that the entity serving as the BA even have a generator, therefore the BA could not serve as the default for providing generator data. The BA could in some cases be a source to transmit that data but cannot be assigned the default responsibility.</p>	
Gregory Campoli NY ISO #2	Gen, PA The TOP should be able to cross check data used by the Planning Authority with current data provided by the Generator.
Lee Westbrook Oncor #1 Tony Jankowski We-Energies #4	Gen, PA
<p>Although there is no clear consensus on which functional entity (the RA or Gen) should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analysis. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.</p> <p>The issue of PA needs to be resolved. The PA has not been formalized within the Functional Model (although it has been drafted and debated) The DT cannot resolve that issue and therefore will forward your comment to the Functional Model Review Task Group.</p>	
OLDTF (9?) 6 - #2 1 - #1,5	RA, BA, Gen, PA ERCOT performs these analysis as the RA, BA, and Planning Authority. Not certain why the T. Op performs system analyses. That's the RA's function. The RA may or may not accept the T. Op's analysis.
Sam Jones ERCOT #2	RA, BA, Gen, PA ERCOT performs these analyses as the RA, BA, and Planning Authority, although the TOP is not precluded from doing so. The RA must ensure the analyses are performed. In ERCOT, ERCOT performs the analyses. The RA may or may not accept the TOP's analyses.
Peter Burke ATC #1	RA, BA, Gen, PA With respect to the RA, it may be necessary to obtain this data for a unit outside TOP control when the unit has a major effect on the TOP system. As stated above it seems the entity who owns and operates the Generator should be responsible for providing the data needed to maintain the reliability of the system. One would not want to be in a position where the data was delivered to the RA and then to the TOP as this potentially "stale" data could cause problems with the network applications on the EMS. (And it also introduces another point of failure in the data supply chain which increases the likelihood that the availability of the data will be less than required.

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<p>Although there is no clear consensus on which functional entity (the RA or Gen) should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analysis. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.</p> <p>The Functional Model does not require that the entity serving as the BA even have a generator, therefore the BA could not serve as the default for providing generator data. The BA could in some cases be a source to transmit that data but cannot be assigned the default responsibility.</p> <p>The issue of PA needs to be resolved. The PA has not been formalized within the Functional Model (although it has been drafted and debated) The DT cannot resolve that issue and therefore will forward your comment to the Functional Model Review Task Group.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>The question should be restated to conform to the parenthetical statement – Who should provide the TOP or RA with generator operational characteristic data needed for system analyses? The Generator Owner function (consistent with the Revised Functional Model) should provide the generator data necessary for system analyses and operational performance analyses to any and all functions needing that data, including the TOP and RA. If needed, the TOP or RA may request the necessary generator data from the Transmission Owner to whom the Generator Owner should be obligated to provide the data as part of its interconnection and operating agreement with the Transmission owner.</p>
<p>Although there is no clear consensus on which functional entity (the RA or Gen) should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analysis. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>The generator operational characteristics are needed for many purposes and this information may be needed by others besides the RA. NERC should require a single coordination point for the submittal of this information. One must not be required to submit this same information repeatedly to different entities or “authorities”. E.g. – if there is already a requirement for generator operational characteristics to be supplied to the Planning Authority, then the PA may be authorized to provide it to the RA. Data confidentiality agreements may apply.</p>
<p>Although there is no clear consensus on which functional entity (the RA or Gen) should provide the generator data to the TOP for analysis purposes; there was a consensus that the TOP would not be assigned the responsibility to conduct regional Transmission Analysis. A TOP may be directed by an RA to provide such analysis but the RA would still be responsible to NERC for the analysis.</p> <p>This standard is limited to including requirements that were identified in the scope of the associated SAR.</p> <p>Data confidentiality agreements are addressed in the Certification SARs.</p>	

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### 10. Requirement 1 - Do you agree with this requirement and its associated performance/outcome and measure/s?

#### **Original Requirement:**

The RA shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

#### **Outcome (100% Compliance):**

Real time system operating limits are monitored, and compared against the actual values associated with those limits.

#### **Measures:**

System operating limits are available in real time.

Actual real time values are available in a form that can be compared to the limits.

#### **Revised Requirement:**

**The reliability authority and planning authority shall identify and document which facilities (or groups of facilities) in the reliability authority's reliability area are subject to interconnection reliability operating limits.**

**The reliability authority and planning authority shall identify each interconnection reliability operating limit within the reliability authority's reliability area.**

**The reliability authority or planning authority shall identify a maximum response time (Tv) for any interconnection reliability operating limit that does not already have a Tv.**

#### **Measures**

**The entity responsible shall establish a list of interconnection reliability operating limits for the reliability authority's reliability area.**

**The entity responsible shall establish a maximum response time (Tv) for any interconnection reliability operating limit that does not already have a Tv.**

**The entity responsible shall establish a list of facilities (or groups of facilities) in the reliability authority's reliability area that are subject to interconnection reliability operating limits**

#### **Summary Consideration:**

Based on the consensus of the comments submitted, the requirement was changed to clarify that the RA shall monitor real time operating parameters to ensure that interconnection reliability operating limits are not violated. The word, 'actual' was removed from the modified requirement.

The Outcomes section has been eliminated from the standards format because it was causing confusion. The outcome was absorbed into the measures.

The levels of non-compliance for the original requirement focused on the availability of telemetered data. The consensus of the commenters was that everyone loses some telemetry at some point in time, and sanctions associated with this event may be unfair. The intent was to motivate entities to provide accurate data to system operators so they have good data to make informed decisions. A suggestion was made to focus on having a process or procedure in place to ensure monitoring could take place when telemetered data was unavailable, and this was adopted and is in the revised standard as a new measure.

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<p>No – Comments indicating requirement and measures need adjustment to focus on monitoring data, not on having data available</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>No The “requirement”, “measures(s)” and “outcome(s)” should state that the RA monitor and take corrective action to ensure the system is operated within the system operating limits. The RA System operating limits can also be established to avoid violating thermal facility limits affecting safety and reliability. Specifying that the system operating limits as “identified to prevent instability, uncontrolled separation or cascading outages” may be interpreted to exclude operating within limits based on other factors such as thermal overload.</p>
<p>This standard focuses on a subset of system operating limits, called interconnection reliability operating limits. The scope of this standard was established during the SAR refinement process and does not include all system operating limits.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>No The levels of non-compliance should not be gauged by the availability of telemetered data but should be measured by the RA’s ability to monitor System Operating limits.</p>
<p>Many commenters expressed the same concern, and the standard has been revised accordingly. A new measure was added to ensure that RAs have a process or procedure in place to ensure that system operators will continue to receive data when telemetered data is unavailable. The levels of non-compliance have been revised so they no longer focus on the availability of telemetered data.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No The RA’s ability to monitor system operating limits is not limited by actual real time data. A better definition or a better term needs to be considered for actual real time data.</p>
<p>In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly. The definition of real time data has been updated and is being posted for comment when the revised standard is posted.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>No Measures should be based on the RA’s ability to monitor the appropriate data and operating limits, not necessarily the availability of telemetry data. What does the term “Actual” imply in reference to real time data?</p>
<p>Many commenters expressed the same concern, and the standard has been revised accordingly. A new measure was added to ensure that RAs have a process or procedure in place to ensure that system operators will continue to receive data when telemetered data is unavailable. The levels of non-compliance have been revised so they no longer focus on the availability of telemetered data. In the original draft, the terms ‘actual real-time data’ and ‘real-time data’ were used to mean the same thing. In the revised standard, the word ‘actual’ has been omitted.</p>	
<p>Susan Morris SERC #2  Robert Reed TS (See List)</p>	<p>No The levels of non-compliance should not be determined by the availability of telemetered data; compliance should be based on the RA’s capability to monitor System Operating Limits. What do you mean by “actual real-time data”? Does it mean something different than “real-time data”? For consistency, the word actual should be removed from Measure 2.</p>

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<p>Many commenters expressed the same concern, and the standard has been revised accordingly. A new measure was added to ensure that RAs have a process or procedure in place to ensure that system operators will continue to receive data when telemetered data is unavailable. The levels of non-compliance have been revised so they no longer focus on the availability of telemetered data.</p> <p>In the original draft, the terms 'actual real-time data' and 'real-time data' were used to mean the same thing. In the revised standard, the word 'actual' has been omitted.</p>	
<p>Joanne Borrell Ed Stein Ray Morella FirstEnergy #1, 3,6</p>	<p>No</p> <p>We agree with the intent of this requirement and associated performance/outcome but the written words need to be changed.</p>
<p>In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly.</p>	
<p>Sam Jones ERCOT #2  OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>No</p> <p>Please refer to the NERC Operating Limit Definition Task Force (OLDTF) report. ERCOT agrees with the contents of that report.</p> <p>The RA must ensure that system operating limits and interconnected reliability limits are established.</p> <p>The measures do not relate to the requirement. The requirement is that the RA shall monitor, not that the limits be available or that data is available. Those measures should pertain to the function(s) responsible for providing the limits and ratings, such as the Generator Owner or the Transmission Owner.</p> <p>The measure should be that the RA did indeed monitor the limits. What's unstated is over what timeframe. Continuous monitoring? Hourly? Other?</p>
<p>The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.</p> <p>This standard addresses only the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. When the first draft of this standard was posted, the SDT thought the Determine Facility Ratings, System Operating Limits and Transfer Capabilities SDT would define the subset of system operating limits addressed in this standard, but that did not happen. Consequently, this revised standard includes a definition of Interconnection Reliability Operating Limits, and includes a requirement that the RA identify these limits. This standard will not include a requirement that the RA establish system operating limits.</p> <p>Many commenters expressed the same concern about the mismatch between the requirement and the measures, and the standard has been revised accordingly.</p> <p>The definition of real-time monitoring: To use vision and hearing to scan various real-time data sources and draw conclusions about what the data indicates. Having the ability to scan real time data as conditions dictate.</p>	
<p><b>No – Mix of comments</b></p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>I agree with the intent of this requirement and associated performance/outcome but the written words need to be changed.</p> <p>(1) Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that</p>

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	<p>exceeds a limit. This concept also needs to be reflected in section 201 (e) Compliance Monitoring Process.</p> <p>(2) Delete the paranthetical phrases, (in real time) and (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system), in Requirement 1. We have already commented that it was allowable for monitoring to be done via voice communications from a manned substation which is not real time monitoring. The standard needs to add a more detailed definition of an Operating Security Limit. If this were done one of the paranthetical expressions would not be needed. The comments to Question 45 also apply to this question.</p>
<p>In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly. The definition of real time data has been updated and is being posted for comment when the revised standard is posted.</p> <p>The revised standard includes the new term, “Interconnection Reliability Operating Limit” and a definition of this type of system operating limit will be posted for comment when the revised standard is posted. The term, ‘real-time’ is also being defined and its definition will also be posted for comment when the revised standard is posted. This parenthetical phrases are not included in the revised standard.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>We agree with the intent, but it is not written clearly. The RA should monitor, in real time, the data associated with the facilities that have defined system operating limits that if exceeded for a defined time limit (to be defined by the Facility Ratings Standard) could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>Additionally, the RA should be required to monitor the system and facilities for the impact of the next contingency.</p> <p>This standard requires the RA to only monitor the data associated with facilities that have defined operating limits identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. What about those thermal overloads and voltage conditions that do not result in catastrophic events? Should this standard ignore those thermal overloads and voltage conditions that will not result in instability or catastrophic events?</p>
<p>In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly. The definition of real time data has been updated and is being posted for comment when the revised standard is posted.</p> <p>One of the other requirements addresses real-time assessments.</p> <p>The scope of this standard must remain within the approved SAR. The SAR included the following purpose: To prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>The SDT interprets this to mean that this standard must focus only on the subset of system operating limits that, if exceeded would adversely impact the interconnection. The SDT has sent a letter to the Director of Standards, asking that he follow up on the fact that no identified standard addresses the type of system operating limits that, when exceeded, do not lead to catastrophic events.</p>	
<p>Compliance Managers</p>	<p>The RA shall monitor (in real time) transmission system data and equipment status related to specific system operating limits and direct actions to prevent OSL violations.</p>
<p>In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly.</p>	

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<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>ISO New England does not believe that we should identify specific limits which must be reported on. Rather, we advocate internally reporting on every violation which does not clear within 30 minutes (as defined in NERC policy). Subsequently, each reported violation will be studied/examined to see if it would have caused instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk power transmission system (have an Inter-Area impact outside of the New England Area following next contingency). If so, ISO New England would report this “OSL violation” to NPCC and NERC within 72 hours. If there would not have been an Inter-Area impact (i.e. the impact would have been localized within the offending Control Area’s boundary), no external reporting will occur. We suggests this approach be adopted.</p> <p>By restricting reporting to pre-identified limits, NERC may not be getting the information they seek through this Standard. Only through a post-operational assessment, can a true analysis (with the correct system configuration) be performed and an adequate judgement be made on the potential impact to the bulk power system.</p> <p>We also believe that data should not be archived unless the limit is not cleared within 30 minutes. We do not advocate archiving data for every limit violation if it cleared in less than 30 minutes.</p>
<p>The revised Standard is more clear than the first draft. The term, Interconnection Reliability Operating Limit has been introduced to clearly identify the subset of system operating limits being addressed in this standard. As proposed, the RA could identify a unique duration for each IROL – The duration <math>T_v</math> would then be the time that the RA had to ‘clear’ the IROL. In some cases, <math>T_v</math> may be 30 minutes, but in other cases, <math>T_v</math> may be longer or shorter.</p> <p>The proposed standard includes a requirement that the RA document all instances of exceeded an IROL, and report all instances of exceeding an IROL for a time that is greater than or equal to <math>T_v</math>. The type of report proposed does not include an analysis of the cause of the event. There is another proposed standard that is expected to require analysis of events such as exceeding IROLs for durations greater than or equal to <math>T_v</math>.</p> <p>The purpose of archiving data is to have it available in the event that further analysis is needed.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No</p> <p>The requirement should read “The RA shall continuously monitor real-time system parameters against system operating limits. System operating limits are established through the standard “Determine Facility Ratings, Operating Limits and Transfer Capabilities”.</p> <p>Please define “actual real time data”. If it is the same as “real time data” then Measure 2 should read “Real-time Data is available in a form that can be compared to the system operating limits.” We use the term “real-time data” as we have defined it in these comments.</p> <p>The “Outcome” should be deleted as it is a restatement of the Requirement and adds nothing to this standard.</p>

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In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly. The definition of real time data has been updated and is being posted for comment when the revised standard is posted. While the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard includes a definition of system operating limits, that standard does not specifically address the subset of system operating limits addressed in this standard. The limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.

In the original draft, the terms ‘actual real-time data’ and ‘real-time data’ were used to mean the same thing. In the revised standard, the word ‘actual’ has been omitted. The ‘Outcome’ section of all standards has been deleted.

Francis Halpin BPA Bus Line #5,6	<p>No</p> <p>In general we agree---but do have some reservations:</p> <p>In the requirements---The terminology related to instability, separation, and cascading outages are more often associated with Operating Security Limits than with System Operating Limits.</p> <p>In the outcomes---The word SHALL sounds too much like a requirement, in fact this whole statement mimics the requirement very closely. The outcome should relate meeting the requirement to its effect and might read something like..”The RA closely monitors the bulk electric system assuring reliable operation. At any rate, the Reliability Authority should be monitoring critical facilities that could cause a violation to the set operating limits – those critical facilities should have already been identified in the operating planning studies. ‘Assuring reliability’ means that upon a violation of a system limit, actions are taken to move the system back within the correct operating limits.</p>
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The purpose of this standard is to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. This standard addresses interconnection reliability operating limits (IROLs), a subset of all system operating limits as defined by the new standard, Determine Facility Ratings, System Operating Limits and Transfer Capabilities.

The Outcomes section has been deleted from all standards because it did mimic the requirements and measures and was confusing.

In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly.

**No – Other comments**

Gerald Rheault Manitoba #1,3,5,6	<p>No</p> <p>Manitoba Hydro believes that the performance requirement objective is correct; however there are instances where real time data is not readily available and may have to be inferred or synthesized from other measurements. The measures section above should be modified to reflect this reality.</p>
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The measures section of the standard has been modified. The revised draft includes a measure that requires the RA to have real time data available in a format that can be compared to IROLs. The revised definition of ‘real-time data’ does include real time measured values, calculated values and explicitly includes data that is manually collected.

Doug Hils Cinergy #1	<p>No</p> <p>The requirement is reversed, the actual real time data that should be monitored and compared to the system operating limits</p>
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In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly.

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<p>Thomas Pruitt Duke #1</p>	<p>No 1) What is the data provider's responsibility regarding provision of data to RA? Is the RA subject to non-compliance if the data provider's tools fail?</p>
<p>The standard has been revised to allow real time data to include manual collection of data. The revised standard also includes a measure that requires the RA to have a process or procedure in place to collect real-time data when automated real-time system operating data is unavailable.</p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>No We have concerns with potential effects of thermal overloads, we believe that thermal limits need to be addressed and monitored. The explanatory text in parenthesis appears to exclude thermal limits.</p>
<p>This standard is limited in scope to addressing the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. The RA must identify what subset of all its system operating limits it will address as interconnection reliability operating limits (IROLs). If exceeding a thermal overload could cause instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system, then the RA should identify that thermal overload as an IROL and this standard will apply to that limit. The SDT was concerned that there does not appear to be any proposed standard that addresses other system operating limits, and has asked the Director-Standards to address this issue.</p>	
<p>Alan Boesch NPPD #1</p>	<p>Yes/No I am very confused by this Standard. Who is going perform these functions the TOP or the RA. The Standard appears to have both performing the same function. The Standard needs to define the relationship between the RA and TOP. Maybe that could be accomplished in a opening paragraph. The requirements on the limits may be too broad. For example, an operating limit should also protect the safety of the public. If a facility was loaded to the point where it no longer met clearance requirements, the RA should respect these limits. The standards also seem to ignore voltage limits. There are limits to how high or low the voltage should be allowed to go before action is required. In addition to steady-state voltages, there should be a limit on transient voltages as well. It is not clear from this standard that these limits apply.</p>
<p>The requirement that the TOP perform this function has been dropped from the revised standard. This standard is limited in scope to addressing the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. The RA must identify what subset of all its system operating limits it will address as interconnection reliability operating limits (IROLs). These may be any type of system operating limit as defined by the Determine Facility Ratings, System Operating Limits and Transfer Capabilities Standard. NERC's primary focus is on reliability – safety concerns associated with physical clearances are addressed through other organizations such as OSHA.</p>	
<p><b>Yes – Comments indicating additional clarification needed</b></p>	
<p>Peter Burke ATC #1</p>	<p>Yes Agree assuming the MISO would be the RA for ATC in which case this requirement expresses what MISO would be expected to be doing. Some accommodation should be made for new facilities for which it is sometimes difficult or impractical to have immediate operation of telemetering. There should be a grace period of something like three months following new construction.</p>
<p>Under the revised standard, each RA must specify how far in advance it needs data.</p>	
<p>Mike Miller</p>	<p>Yes</p>

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Southern Co #1	The operating limits should be associated with the ratings, or both should be defined for clarification.
<p>This standard addresses the subset of system operating limits called interconnection reliability operating limits (IROLs) that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>The RA is responsible for establishing its system operating limits following the process identified in the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. The RA will then identify the subset of its system operating limits that will be IROLs.</p>	
Lloyd Linke MAPP #2	<p>Yes</p> <p>In the outcome section, actual data should be qualified as actual real time data.</p>
<p>The first draft of this standard used ‘actual real time data and real time data to mean the same thing. Use of the word, ‘actual’ was confusing. The revised standard does not include the word, ‘actual.’</p>	
Lee Westbrook Oncor #1	<p>Yes</p> <p>Since limits may specify both magnitude and duration, real time data may need to be integrated to compare to limits. That should be made more apparent here or in the definition of data.</p>
<p>The process for determining system operating limits is addressed in the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. System operating limits may have duration components.</p> <p>Under this standard, the RA will identify a subset of its system operating limits as interconnection reliability operating limits (IROLs) and will identify, for each IROL, how long (T<sub>v</sub>) the limit may be exceeded before the risk to the interconnection is too great.</p>	
FRCC 6-#1, 4-#2, 1-#2	<p>Yes</p> <p>Real time data is actual data. It would seem that the reference to actual in item 2 is not necessary and may cause confusion. Also, as real time data may be temporarily unavailable from time to time, state estimation or other calculated data should be acceptable.</p>
<p>The definition of real-time data has been revised to include data from state estimation, or other calculated data as well as manually collected data.</p> <p>The first draft of this standard used ‘actual real time data and real time data to mean the same thing. Use of the word, ‘actual’ was confusing. The revised standard does not include the word, ‘actual.’</p>	
William Smith Allegheny Pwr #1	<p>Yes</p> <p>I agree with the intent. However, the RA is actually monitoring the actual real time data and comparing it against the system operating limits. A definition of “system operating limits” would allow for the removal of the parenthetical phrases in Requirement 1.</p>
<p>In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly.</p> <p>The revised standard introduces the term, ‘interconnection reliability operating limits’ (IROLs) to define the subset of system operating limits addressed in this standard. With this new term, the parenthetical phrases in the original Requirement 1 have been omitted.</p>	
Stuart Goza TVA #1	<p>Yes</p> <p>The applicable term “system operating limit” needs clarification</p>
<p>The revised standard introduces the term, ‘interconnection reliability operating limits’ (IROLs) to define the subset of system operating limits addressed in this standard.</p>	
Toni Timberman BPA #1	<p>Yes</p> <p>Thermal Overloads are not specifically mentioned. Is that assumed to be the</p>

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	cause of the Cascading Outages?
<p>The requirement that the TOP perform this function has been dropped from the revised standard. This standard is limited in scope to addressing the subset of system operating limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. The RA must identify what subset of all its system operating limits it will address as interconnection reliability operating limits (IROLs). These may be any type of system operating limit as defined by the Determine Facility Ratings, System Operating Limits and Transfer Capabilities Standard.</p>	
<p>Alan Johnson Mirant #6          Albert M. DiCaprio MAAC #2          Bob Burkard NCMPA1 # 3,4,5          Charles Yeung Reliant Energy #6          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          Ed Riley CA ISO #2          Fred Frederick Vectren #3          James Stanton Calpine #5          Joe Minkstein PG&amp;E #5          Joseph Buch Madison #4          Karl Kohlrus CWL&amp;P #5          Kim Warren IMO #2          Lee Xanthakos SCE&amp;G #1          Richard Kafka Pepco #1          Richard Schwarz PNSC #2          Roman Carter So Co Gen 3,5,6 (6 members)          Tony Jankowski We-Energies #4          Vern Colbert Dominion #1</p>	<p>Yes</p>

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### 11. Requirement 1 – Do you agree with these levels of non-compliance for this requirement?

#### Original Levels of Non-compliance:

1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value monitored for up to 24 hours
2. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate data monitored for up to 48 hours
3. Not Applicable
4. System operating limit(s) are not being compared to actual data

#### Revised Levels of Non-compliance:

1. Not applicable
2. Not applicable
3. Not applicable
4. Any of the following:
  - **Interconnection reliability operating limits not available to operations personnel for real time use**
  - **Real-time data not available in a form that can be compared to the interconnection reliability operating limits**
  - **System operating parameters not monitored and compared against interconnection reliability operating limits.**

#### Summary Consideration:

The consensus of the comments submitted indicates that the “Levels of Non Compliance “ should be redefined to reflect the activity of monitoring the system data and not to the level of data availability. This change has been implemented and is reflected in the revised standard.

#### No – Comments about mismatch between measures and non-compliance

Albert M. DiCaprio MAAC #2	No The measure has to do with monitoring while the non-compliance has to do with data quality. Monitoring compliance is difficult – how does one say that the system is not being monitored correctly. However, the measures focus on whether or not the monitor is using good data.
Agreed. The levels of non-compliance have been adjusted to focus on monitoring. There are methods of measuring ‘covert’ behaviors, such as monitoring. One method of measuring ‘monitoring’ is to interview system operators who are working in a control room. The compliance monitor could ask the system operator to describe, in his or her own words, whether or not there are any IROLs that have been exceeded. By correctly answering this question, the system operator is demonstrating that monitoring has taken place.	
Gregory Campoli NY ISO #2	No Levels of non compliance should not be measured by availability of telemetered data. Levels of non compliance should be focused on the ability to monitor current system operating limits and system conditions. In some cases substitute data should be acceptable.

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<p>Many commenters agreed with you. The levels of non-compliance have been adjusted so they no longer focus on the availability of telemetered data. The revised standard includes a new definition of real-time data that specifically states that state estimated, calculated or manually collected data are all considered types of 'real-time data' for this standard.</p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>No Levels of non-compliance should focus on what the RA does with the data not if it gets it or not.</p>
<p>Many commenters agreed with you. The levels of non-compliance have been adjusted so they no longer focus on the availability of telemetered data and focus. The new measures focus on monitoring data and on having a process or procedure in place to address actions to take when automated real-time data is not available.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>No Levels of non-compliance should not be determined by the availability of data. It should be based more on the RA's capability to monitor System Operating Limits and whether they took appropriate action to resolve issues preventing the RA from doing the monitoring.</p>
<p>Many commenters agreed with you. The levels of non-compliance have been adjusted so they no longer focus on the availability of telemetered data and focus. The new measures focus on monitoring data and on having a process or procedure in place to address actions to take when automated real-time data is not available.</p>	
<p>Doug Hils Cinergy #1</p>	<p>No The levels of Non-compliance are measurements of the communication system not the actual requirement, does not allow for using surrogate values such as state estimation or manually requested values to be used without the RA being at a level of non compliance.</p>
<p>Many commenters agreed with you. The levels of non-compliance have been adjusted so they no longer focus on the availability of telemetered data and focus. The new measures focus on monitoring data and on having a process or procedure in place to address actions to take when automated real-time data is not available. The revised definition of 'real-time data' includes the acceptability of state estimated and manually collected data.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>No The levels of non-compliance should be based on whether you have sufficient and appropriate data regardless of the means for gathering the data to compare and evaluate conditions in terms of operating limits and are you monitoring that data.</p>
<p>Most commenters indicated that the levels of non-compliance should focus on monitoring, and not on the availability of data. The levels of non-compliance were adjusted to shift the focus from data availability to monitoring.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No Levels of non-compliance should not be determined by the availability of telemetered data. Much of the information used to meet Measure 2 is derived from measured values by the state estimator or other calculations. An RAs level of non-compliance should reflect that function's ability to meet the Requirement as reflected in the Measures: 1) have the SOLs available in real time, and 2) real-time data in a form that can be compared to the SOLs. Please revise the Levels of Non-compliance to conform to the Measures.</p>
<p>Most commenters indicated that the levels of non-compliance should focus on monitoring, and not on the availability of data. The levels of non-compliance were adjusted to shift the focus from data availability to monitoring.</p>	

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<p>OLDTF (9?) 6 - #2 1 - #1,5 Sam Jones ERCOT #2</p>	<p>Please refer to our comments to Q10. <i>{ The Measures don't relate to the Requirement. The requirement is that the RA "shall monitor" not that "the limits be available" or "data is available." Those measures should pertain to the function(s) responsible for providing the limits and ratings, such as the Generator Owner or Transmission Owner.</i> <i>The measure should be that the RA did indeed monitor the limits. What's unstated is over what time frame. Continuous monitoring? Hourly?}</i> The RA typically cannot control whether the data is provided, but may have acceptable and prudent measures in place to require the data. This comment would apply through the document.</p>
<p>Most commenters indicated that the levels of non-compliance should focus on monitoring, and not on the availability of data. The levels of non-compliance were adjusted to shift the focus from data availability to monitoring.</p> <p>The definition of real-time monitoring avoids assigning a specific frequency to this activity. The proposed definition recognizes that the system operator may be actively monitoring or may be in a position to actively monitor. The intent is to recognize that a system operator doesn't always keep any one display visible all the time. However – there should always be someone who is able to monitor - each company handles this in its own way. In many companies auditory cues are used to prompt system operators to critical status changes, and then the system operator begins scanning the appropriate display.</p> <p>Definition of real-time monitoring: To use vision and hearing to scan various real-time data sources and draw conclusions about what the data indicates. Having the ability to scan real time data as conditions dictate.</p> <p>Other sections of the standard were also revised to reinforce the RAs need to document what data it needs, and for other entities to provide that data as specified.</p>	
<p><b>No – Comments about loss of telemetry</b></p>	
<p>William Smith Allegheny Pwr #1</p>	<p>No There should not be non-compliance at level 1 or 2 when the RA or TOP stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working.</p>
<p>The revised requirement addresses the need to have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No Loss of telemetry should not result in a non-compliance. Taking no action to correct the problem of missing data or to obtain the data via another means, such as requiring the TOP to station an operator at the station or plant to monitor and report the data until such time that telemetry is restored, should be a non-compliance. Additionally, the problem could be due to a telemetry problem at the TOP, so why would the RA be penalized? Also, the problem could be within the ISN, again not within the direct control of the RA. Define "surrogate value" and "surrogate data" Suggested text: <b>Requirement 1:</b> The RA shall monitor (in real time) the data associated with facilities that have defined the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system). <del>And the actual real time data associated with those limits.</del></p>

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	<p><b>Measure(s):</b></p> <ol style="list-style-type: none"> <li>1. System operating limits are defined and available. <del>In real time</del></li> <li>2. Actual real time data is available in a form that can be compared to the system operating limits</li> </ol> <p><b>Outcome(s) (100% Compliance):</b></p> <p>The RA shall monitor in real time facilities with system operating limits and compare <del>these against</del> the actual data <del>associated</del> with those limits.</p>
<p>The revised requirement addresses the need to have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior. Specific references to ‘surrogate’ data have been dropped from the standard.</p> <p>The suggestions for wording changes to the requirement have been adopted in concept and are reflected in the revised standard.</p>	
<p>Richard Schwarz PNSC #2</p>	<p>No</p> <p>Levels 1 &amp; 2. The RA has no control as to availability of telemetered data. This responsibility should rest with the providing entity. The RA should monitor the data, be able to monitor the availability of telemetered data and be able to measure availability of data.</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard include a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable.</p>	
<p>Toni Timberman BPA #1</p>	<p>No</p> <p># 4 is reasonable, but the other levels of non-compliance are related to data availability, not to the requirement that the RA monitor limits and associated data. The responsibility for data availability rests with those providing the data. At the most, the RA should have processes and procedures (and alarms?) in place to make them aware of when the data is bad...ie, when a real-time measurement has not been available for xx minutes, or when a data point value has not changed for xx minutes. (It is possible for the data link to be bad and for data to still be coming in but not updating).</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard include a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable.</p> <p>Having a process in place to recognize bad data is outside the scope of this standard.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>No</p> <p>There can be legitimate reasons for telemeterd data being unavailable. Perhaps it would be more appropriate to change the timing in item 1 from “for up to 24 hours” to “for 12 to 24 hours”. Again, what is wrong with using state estimation data, or other calculated data? These non-compliance levels are not realistic.</p> <p>If item 2 is intended to be a next level of non-compliance, it should be between 24 to 48 hours.</p> <p>You do not ask a question about the compliance monitoring process, but we would like to provide comment on that section as well. Section 201 (e) states that the RA will demonstrate compliance thru the self certification process with re-certification on a schedule established by the compliance monitor. We do not agree with the re-certification part of this statement. The compliance monitoring of this standard is not for certification on an entity performing a function.</p> <p>There is no need for any re-certification in connection with this standard. The self certification process is just a way for an entity to provide information to the</p>

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	<p>compliance monitor that will be validated thru spot reviews etc. The re-certification statement appears in every compliance section in this document. It needs to be removed throughout.</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p> <p>Self-certification is an established part of the existing NERC Compliance Enforcement Program. Self-certification is a process whereby an entity submits a form to its Compliance Monitor, indicating that the entity is in compliance with a specific requirement or set of requirements for a reliability standard.</p> <p>Self-certification forms generally require the signature of an officer of the corporation. Most self-certification forms are completed on an annual basis although they may be required more often.</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>No</p> <p>Non-compliance Levels 1 and 2 need to include a lower limit before the non-compliance level would be in effect. For example, as written, the RA function would be in Level 1 violation if it misses 1 second of actual telemetered data. This does not seem reasonable. We suggest adding the phrase “and no proper corrective action was taken” to the end of both Levels 1 and 2. Thus:</p> <p>6 Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours and no proper corrective action was taken</p> <p>2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours and no proper corrective action was taken</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Thomas Pruitt Duke #1</p>	<p>No</p> <p>6 Loss of telemetry for short periods is an unfortunate but routine matter – with all that telemetry equipment in the field, it cannot be expected that none of it ever have downtime.</p> <p>6) The measures and levels of non-compliance should be re-evaluated to insure the achievement of the overall objective of this requirement.</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Kim Warren IMO #2</p>	<p>No</p> <p>Loss of a few telemetered quantities does not constitute an inability of the RA to perform his “monitoring “(and analysis) functions if the State Estimator remains functional. (In fact State estimated quantities are deemed to be often more accurate than telemetered quantities .) Reporting of loss of actual telemetry should only be required when the RA can no longer perform these functions. Furthermore, reporting each actual telemetry loss will create too much overhead for the RA, the Regions and/or NERC.</p> <p>For a loss of the RA’s “monitoring function”, a minimum time standard should be built into this compliance issue similar to “Exceeding an Operating Limit but Not a Reportable Violation” (question 5 &amp; 6). There should be a time allowance for short term failures (i.e. &lt; 30 minutes) of failure before reporting is required.</p>

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<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Stuart Goza TVA #1</p>	<p>No There should be some realistic acceptable period for failed telemetry before Level 1 violation occurs.</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Fred Frederick Vectren #3</p>	<p>No At what point does telemetered data being unavailable constitute non-compliance (1 second, 1minute, 1 hour, etc.)?</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Alan Johnson Mirant #6</p>	<p>No May not be reading this correctly, but it seems unreasonable that if some data is missing during a 24-hour period that the RA is deemed to be non-compliant. Seems like there should be allowance for some sort of tolerance before being deemed non-compliant.</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Peter Burke ATC #1</p>	<p>No Level 1 non-compliance is written “up to 24 hours.” This suggests that anything, even a single missed scan, qualifies as non-compliance.  As worded there is a significant amount of room for interpretation as to what constitutes non-compliance. If MISO loses the ability to scan one reading from one RTU for a day, this should not be considered a violation. If an RTU is lost for a day, a decision needs to be made as to how critical the data is to reliable operations. If an entire ICCP link is lost, 10 minutes may be too long. That will most likely be a judgement call based on the data supplied via the link that is down and system conditions at the time of the failure (sunny and 65 degrees versus thunderstorms rolling through the system). This needs more work before using it to assign fines for non-compliance.</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	

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<p>Ray Morella Ed Stein Joanne Borrell FirstEnergy #1, 3, 6  ECAR Ops Panel #1 – 8, #5 – 1, #2 – 2</p>	<p>No</p> <ol style="list-style-type: none"> <li>(1) Operating Security Limits are not usually monitored in real time.</li> <li>(2) There should not be a non-compliance at level 1 or 2 when a Reliability Coordinator (RC) or Transmission Operator (TOP) stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working. The existing standard forces a non-compliance whenever the telecommunications equipment is not working.</li> <li>(3) Note 1 says – ‘Real Time could be continuous analog data or data sampled at a rate greater than or equal to one minute -----’. One minute is a unit of time not a rate. It should say – ‘Real time could be continuous analog data or data sampled faster than or equal to once a minute-----’.</li> <li>(4) Requirements 201 and 202 are very similar. Requirement 201 applies to Reliability Coordinators. Requirement 202 applies to Transmission Operators. The requirements are duplicative. The standard should require system conditions to be monitored by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing the monitoring if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.</li> </ol>
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In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly. The definition of real time data has been updated and is being posted for comment when the revised standard is posted. The revised standard includes the new term, “Interconnection Reliability Operating Limit” and a definition of this type of system operating limit will be posted for comment when the revised standard is posted.

The revised standard makes allowances for the manual collection of real time data.

The definition of ‘real time data’ has been modified, and no longer includes the reference to data sampling rates.

The duplicate requirement for the TOP has been dropped from this standard. The RA is the only function with responsibility for this requirement.

<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <ol style="list-style-type: none"> <li>(1) Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that exceeds a limit.</li> <li>(2) The description of Level 1 Non-compliance and Level 2 Non-compliance under ‘Levels of Non-compliance for this Requirement’ should be changed. Level 1 non-compliance should read ‘Actual telemetered data or a surrogate for actual telemetered data needed for monitoring deviations from system operating limits was unavailable for 24 hours’. Level 2 non-compliance should read ‘Actual telemetered data or a surrogate for actual telemetered data needed for monitoring deviations from system operating limits was unavailable for 48 hours’. There is nothing wrong with using a manual reading phoned in from a substation or using a value calculated from surrounding parameters. A value calculated from surrounding parameters</li> </ol>
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	<p>might be better than an incorrect telemetered value. Some State Estimation systems use a value calculated from surrounding parameters instead of the telemetered value for certain circumstances.</p>
<p>In the first draft of this standard, this requirement was poorly stated. The intent was that the RA monitor real-time data and compare it against IROLs. The revised standard states this much more clearly. The definition of real time data has been updated and is being posted for comment when the revised standard is posted. The revised standard includes the new term, “Interconnection Reliability Operating Limit” and a definition of this type of system operating limit will be posted for comment when the revised standard is posted.</p> <p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>No</p> <p>Should read, for example: “Actual telemetered data needed for monitoring system operating limits provided to the RA as specified, but unavailable to the operator, so surrogate value was monitored for up to 24 hours.” In each of the first two measures, this caveat noting that the compliance failure should only be considered a failure when the RA is getting the data, but mishandling it. Said another way, if the RA isn’t getting the data because the TOPs (or others) are not sending the data, then no non-compliance occurs.</p> <p>Level #1 should be 48 hours, level #2 should be 72 hours, and level #3 should have a 96 hour requirement. In many instances, 24 hours may be impractical especially with reliance on outside communication providers.</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>This non-compliance matrix is completely inappropriate and ineffective. What is the scope of the telemetering unavailability required to achieve these levels of non-compliance? Is the goal here to achieve compliance with reliability standards or measure the amount of redundant telemetering equipment? It is clearly possible to maintain reliability absent some telemetering as long as an effective State Estimator is in use. Additionally, how much telemetering must be unavailable in order to be non-compliant: One point, five points, 5,000 points, etc.? Compliance should be measured against how many violations that an area had which were not cleared over a specified period of time. Only the RA should make the determination of how much telemetering is enough to have effective limit management.</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p><b>No – Comments indicating alternate levels of non-compliance needed</b></p>	
<p>Susan Morris SERC #2</p> <p>Robert Reed TS (See List)</p>	<p>No</p> <p>6 Levels 1 and 2 imply that use of substitute data is unacceptable.</p> <p>2) The only important level of non-compliance listed above is level 4.</p> <p>3) There seems to be no penalty for failing to identify a System Operating Limit. If an entity identifies limits and then does not monitor them, then the entity is subject to a greater penalty than an entity who fails to identify the limits. Need a process</p>

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<p>Thomas Pruitt Duke #1</p>	<p>to identify SOLs and to assess system conditions, both real-time and forecast. The measures should be: a) do you have the data; b) do you have the limits; c) are you monitoring the data.  4) What does “surrogate value” mean? Levels 1 and 2 should be rewritten to consider the suggested measures listed in these comments.</p>
<p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable.  The revised standard includes a requirement that IROLs be identified.  The term, ‘surrogate value’ is not used in the revised standard.  The levels of non-compliance were revised to reflect the comments submitted – emphasis is on ensuring that system operators have the limits and compare real time data against those limits. A penalty could be assessed if an entity didn’t have a process or procedure in place to ensure monitoring can continue if automated real time system operating data is unavailable.</p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>No  Should be revised to state that as long as limits are observable the RA is compliant. Level 4 needs to be clarified so that momentary telemetry problems (loss of telemetry) does not result in a level 4 violation.</p>
<p>The levels of non-compliance were revised to conform with the changes made to the requirement. The emphasis in the new levels of non-compliance is on ensuring that system operators have the limits and compare real time data against those limits. A penalty could be assessed if an entity didn’t have a process or procedure in place to ensure monitoring can continue if automated real time system operating data is unavailable.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>No  Level 4 is the most important metric for this Requirement and we feel that Level 1, 2 and 3 are unnecessary.</p>
<p>The levels of non-compliance were revised to conform with the changes made to the requirement. The emphasis in the new levels of non-compliance is on ensuring that system operators have the limits and compare real time data against those limits. A penalty could be assessed if an entity didn’t have a process or procedure in place to ensure monitoring can continue if automated real time system operating data is unavailable.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>No  Manitoba Hydro agrees with using a set of levels to define non-compliance. However the set of limits defined here may not be appropriate and should be related to the risk on the system. In the event of loss of data, perhaps a lower set of limits should be applied till the regular data can be re-established.</p>
<p>Many commenters indicated that temporary loss of data should not be a non-compliance event– and the requirement was changed to reflect the consensus of the comments submitted.  The levels of non-compliance were revised to conform with the changes made to the requirement. The emphasis in the new levels of non-compliance is on ensuring that system operators have the limits and compare real time data against those limits. A penalty could be assessed if an entity didn’t have a process or procedure in place to ensure monitoring can continue if automated real time system operating data is unavailable.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>No  Level 1 may require a more stringent time frame than a 24 hour loss of telemetered data. RAs should have the most accurate information at all times. There is no apparent check whether the surrogate value is as accurate as the actual telemetered data. Reliability may be greatly jeopardized if the RA employs</p>

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	<p>inaccurate data for a 24 hour period. We recommend for Level 1 compliance that surrogate values not be relied on for more than 4 hours. This provides incentive to recover from the loss of data well within the operating time frame of the wholesale market 8 hour block schedules. For Level 2 compliance, 24 hours is appropriate. As an alternative, there could be some recognition in the suggested compliance levels for the time of day (&amp; day of week) as to when the data is not available. This system visibility that this information provides is most critical when the system is in danger of a operating limit violation.</p>
<p>Many commenters indicated that temporary loss of data should not be a non-compliance event. The levels of non-compliance were revised to conform with the changes made to the requirement. The emphasis in the new levels of non-compliance is on ensuring that system operators have the limits and compare real time data against those limits. A penalty could be assessed if an entity didn't have a process or procedure in place to ensure monitoring can continue if automated real time system operating data is unavailable.</p>	
<p>Alan Boesch NPPD #1</p>	<p>No I am assuming that the RA will not get the data directly but will receive the data from another source. It does not seem appropriate to sanction them for something they do not control. Maybe the non-compliance should be associated with the equipment the RA uses for monitoring the system. In addition the levels of non-compliance use the term "Actual telemetered data" while the footnote to the measures states that real-time, state estimated or calculated data is acceptable. There is at a minimum confusion with the way these terms are stated if not outright conflict. The standard needs to be consistent between the measurement and level of non-compliance.</p>
<p>Many commenters indicated that temporary loss of data should not be a non-compliance event. The levels of non-compliance were revised to conform with the changes made to the requirement. The emphasis in the new levels of non-compliance is on ensuring that system operators have the limits and compare real time data against those limits. A penalty could be assessed if an entity didn't have a process or procedure in place to ensure monitoring can continue if automated real time system operating data is unavailable.</p> <p>There was inconsistency in the definition and application of the terms used to describe real time data. The definition of 'real-time data' has been updated and will be posted for comment when the revised standard is posted. The term is used more consistently in the revised standard.</p>	
<p>Compliance Managers</p>	<p>Levels of non-compliance based on time over limit, and magnitude of limit violation. (Something similar to the matrix that is used in the WSCC would provide for the practical measuring of non-compliance.)</p>
<p>Since this requirement is addressing monitoring, not acting to control the limits, these levels of non-compliance weren't adopted for this requirement.</p>	
<p><b>Other Comments on Compliance</b></p>	
<p>Ed Riley CA ISO #2</p>	<p>No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.</p>
<p>It is important that entities responsible for compliance understand the ramifications of compliance as well as the standard itself. The standard, therefore, will contain compliance requirements along with the standard itself. This principle is inherent in the development of all new standards.</p>	

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Bob Burkard NCMPA1 # 3,4,5 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Francis Halpin BPA Bus Line #5,6 James Stanton Calpine #5 Joe Minkstein PG&E #5 Joseph Buch Madison #4 Karl Kohlrus CWL&P #5 Mike Miller Southern Co #1 Richard Kafka Pepco #1 Vern Colbert Dominion #1	Yes
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### 12. Requirement 2 – Do you agree with this requirement and its associated performance/outcome and measure/s?

**Original Requirement:**

The TOP shall monitor (in real time) the system operating limits (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system) and the actual real time data associated with those limits.

**Outcomes (100% Compliance):**

Real time system operating limits are monitored, and compared against the actual data associated with those limits

**Measures:**

System operating limits are available in real time

Actual real time data is available in a form that can be compared to the system operating limits

**Revised Requirement: None**

Summary Consideration:

Several commenters indicated that this requirement should be removed or adjusted. Under the Functional Model, the RA has the principal responsibility for monitoring reliability-related data within its Reliability Authority Area. The IROLs addressed in this standard fall into this category of reliability-related data. Some of the responsibility to monitor the system operating limits and voltage limits for the local network may be delegated to the TOP through written agreement, but those agreements are addressed in the standards being developed for certification. Several commenters indicated a need for a requirement for TOPs to monitor system operating limits. The system operating limits monitored by the TOP are not IROLs and are outside the scope of this standard. Because so many commenters indicated a desire for a requirement for the TOP, the SDT has advised that the Director-Standards that there may be a need for an additional standard to address the TOP's requirement to monitor its system operating limits.

**No – Comments indicating this is an RA responsibility**

Richard Kafka Pepco #1	No This is a RA responsibility, although TOP will physically monitor actual conditions.
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Agreed. The requirement has been removed from the revised standard.

Toni Timberman BPA #1	No According to the Functional Model, “The Transmission Operator operates and maintains the transmission facilities, and is responsible for local reliability functions. The Transmission Operator under the Reliability Authority’s direction can take action, such as implementing voltage reductions, to help mitigate an Energy Emergency.”  This does not say that the Transmission Operator is responsible for the reliability of the bulk Power System. Does the term “operate” in the functional model include the responsibility to “monitor”?
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<p>The Functional Model does include the following TOP responsibility which does include monitoring:</p> <ul style="list-style-type: none"> <li>Provides local network integrity by defining operating limits, developing contingency plans, and monitoring operations</li> </ul> <p>Although the Functional Model does assign the TOP some monitoring responsibilities, the system operating limit addressed in this standard are the subset of system operating limits that are called, 'interconnection reliability operating limits' (IROLs). IROLs are those system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. Under the Functional Model, IROLs are monitored by the RA, not by the TOP.</p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No</p> <p>6 Whose responsibility is it to “. . . monitor (in real time) the system operating limits . . .” – the RA or the TOP?</p> <p>2) Whose compliance is more significant than the other?</p>
<p>The scope of this standard is limited to those system operating limits that are now called 'interconnection reliability operating limits' or IROLs. An IROL is a system operating limit that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>The Functional Model assigns monitoring to both the RA and the TOP. However, the RA is expected to monitor all reliability-related data within its RA area, and is responsible for taking actions or directing others to act to relieve reliability threats and violations in its Reliability Authority Area.</p> <p>The TOP is responsible for local network integrity by defining operating limits, developing contingency plans, and monitoring operations.</p> <p>The SDT interpreted this to mean that this standard should not include a requirement that the TOP monitor IROLs.</p>	
<p>Robert Reed TS (See List)</p>	<p>No</p> <p>1) 3) This requirement should be for the TOP to provide to the RA telemetry data and to monitor system limits and OSLs under the direction of the RA.</p>
<p>There is another requirement in this revised standard that requires the TOP to provide data to its RA.</p> <p>This standard focuses on the subset of system operating limits called, 'interconnection reliability operating limits' (IROLs). These are the limits that, if exceeded, may lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. It is the RA's responsibility to ensure that these limits are not exceeded. The RA may delegate the responsibility for monitoring these IROLs to its TOPs, but the RA would still be held responsible for operating the system within the limits.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No</p> <p>It is unclear by this requirement alone, who has jurisdiction for monitoring Operating Limits RA or TOP. The TOP's ability to monitor system operating limits is not limited by actual real time data. A better definition or a better term needs to be considered for actual real time data.</p>
<p>The definition of real-time data has been revised, and the revised definition will be posted for comment with the revised standard.</p> <p>The standard has been revised to delete the requirement that the TOP monitor the system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. As several commenters noted, under the Functional Model, the TOP only has responsibility for local network integrity.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>No</p> <p>This requirement is a duplicate of what was in Requirement 1 for the RA. We are</p>

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	<p>confused as to whose responsibility it is to monitor the system operating limits. Shouldn't the requirement be for the TOP to provide telemetry data to the RA so the RA can monitor and assess the entire area?</p>
<p>The standard has been revised to delete the requirement that the TOP monitor the system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. As several commenters noted, under the Functional Model, the TOP only has responsibility for local network integrity.</p> <p>The revised standard does include a requirement, as suggested, that the TOP provide data to the RA.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>This requirement is duplicative to Requirement 1 for the RA. The standard should require that system conditions be monitored to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. The standard should require either the RA or the TOP to do this, but not require that they both do this. We prefer for the standard to require the RA perform this function, and that this is not a function that the RA can delegate to a TOP. The RA has a bigger picture, and can analysis the impact of one TOP on another TOP better then the TOP's can. Further, the RA has the real-time data required to monitor Regional conditions, that a TOP will not have.</p> <p>This requirement should be re-worded to require that the TOP provide real time data, equipment limits, and model updates to their RA as specified by their RA.</p> <p>This standard requires the TOP to only monitor the data associated with facilities that have defined operating limits identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. What about those thermal overloads and voltage conditions that do not result in catastrophic events? Should this standard ignore those thermal overloads and voltage conditions that will not result in instability or catastrophic events?</p>
<p>The standard has been revised to delete the requirement that the TOP monitor the system operating limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. As several commenters noted, under the Functional Model, the TOP only has responsibility for local network integrity.</p> <p>The revised standard does include a requirement, as suggested, that the TOP provide data to the RA.</p> <p>This standard is limited to the subset of system operating limits called, 'interconnection reliability operating limits' (IROLs).</p> <p>Several commenters indicated a need for a requirement for TOPs to monitor system operating limits or for a requirement that addresses a broader range of system operating limits. Because so many commenters indicated a desire for a requirement for the TOP or a desire for a standard that addresses a broader range of system operating limits, the SDT has advised that the Director-Standards that there may be a need for an additional standard to address the TOP's requirement to monitor its system operating limits.</p>	
<p>Compliance Managers</p>	<p>Delete: Duplication of effort between RC and TOP</p>
<p>The standard has been revised to delete this requirement.</p>	
<p><b>No – Comments about mismatch between requirement and measures</b></p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>No</p> <p>System operating limits can also be established to avoid violating thermal facility limits. Specifying that the system operating limits as "identified to prevent instability, uncontrolled separation or cascading outages" may be interpreted to exclude operating within limits based on other factors such as thermal overload.</p>

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<p>This standard is limited to the subset of system operating limits called, 'interconnection reliability operating limits' (IROLs). The scope of this standard was set during the development of the associated SAR. To change the scope, all work on the Standard would stop, and the SAR would need to be revised. Several other commenters shared your concern that a requirement is needed that addresses a broader range of system operating limits. The SDT has advised that the Director-Standards that there may be a need for an additional standard to address the TOP's requirement to monitor its system operating limits.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>No Measures should be based on the TOP's ability to monitor the appropriate data and operating limits, not necessarily the availability of telemetry data.</p>
<p>Based on a review of the comments submitted and a review of the Functional Model, this requirement has been dropped from this standard.</p>	
<p>Sam Jones ERCOT #2  OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>No Same comments as in #10 above. The measures don't relate to the requirement. { <i>The RA must ensure that system operating limits and interconnected reliability limits are established.</i>  <i>The measures do not relate to the requirement. The requirement is that the RA shall monitor, not that the limits be available or that data is available. Those measures should pertain to the function(s) responsible for providing the limits and ratings, such as the Generator Owner or the Transmission Owner.</i>  <i>The measure should be that the RA did indeed monitor the limits. What's unstated is over what timeframe. Continuous monitoring? Hourly? Other?}</i></p>
<p>Based on a review of the comments submitted and a review of the Functional Model, this requirement has been dropped from this standard. The comments provided were used in revising the same requirement for the RA.</p>	
<p><b>Comments about revising the phraseology</b></p>	
<p>Doug Hills Cinergy #1</p>	<p>No First the requirement is reversed, the actual real time data that should be monitored and compared to the system operating limits. Second operating limits set in the SCADA or EMS are not commonly changed from day to day to match current.</p>
<p>Based on a review of the comments submitted and a review of the Functional Model, this requirement has been dropped from this standard. The comments provided were used in revising the same requirement for the RA.</p>	
<p>Ray Morella Joanne Borrell Ed Stein FirstEnergy #1, 3, 6  ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No We agree with the intent of this requirement and associated performance/outcome but the written words need to be changed. (1) Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that exceeds a limit. This concept also needs to be reflected in section 202 (e) Compliance Monitoring Process.</p>
<p>Based on a review of the comments submitted and a review of the Functional Model, this requirement has been dropped from this standard. The comments provided were used in revising the same requirement for the RA.</p>	
<p>ECAR Ops Panel</p>	<p>No</p>

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<p>#1 – 8 #5 – 1 #2 – 2</p>	<p>Delete the paranthetical phrases, (in real time) and (identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system), in Requirement 1. We have already commented that it was allowable for monitoring to be done via voice communications from a manned substation which is not real time monitoring. The standard needs to add a more detailed definition of an Operating Security Limit. If this were done one of the paranthetical expressions would not be needed. The comments to Question 45 also apply to this question.</p>
<p>Based on a review of the comments submitted and a review of the Functional Model, this requirement has been dropped from this standard. The comments provided were used in revising the same requirement for the RA.</p>	
<p><b>No – Comments about expanding scope of requirements or measures</b></p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No Our comments to Requirement 1 apply to Requirement 2 also. { The requirement should read “The RA shall continuously monitor real-time system parameters against system operating limits. System operating limits are established through the standard “Determine Facility Ratings, Operating Limits and Transfer Capabilities”. Please define “actual real time data”. If it is the same as “real time data” then Measure 2 should read “Real-time Data is available in a form that can be compared to the system operating limits.” We use the term “real-time data” as we have defined it in these comments. The “Outcome” should be deleted as it is a restatement of the Requirement and adds nothing to this standard.} Requirement 2 should also reflect the requirement that the TOP monitor all facilities to assure the real-time system parameters are under Facility Ratings.</p>
<p>Based on a review of the comments submitted and a review of the Functional Model, this requirement has been dropped from this standard. The comments provided were used in revising the same requirement for the RA.  This standard is limited to addressing the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. Adding requirements that address facility ratings is outside the scope of this standard.</p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>No We have concerns with potential effects of thermal overloads, we believe that thermal limits need to be addressed and monitored.</p>
<p>Based on a review of the comments submitted and a review of the Functional Model, this requirement has been dropped from this standard.  This standard is limited to addressing the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. If a thermal overload could cause instability, uncontrolled separation or cascading outages, then it is addressed by this standard.</p>	
<p>Roger Green Southern Co #5</p>	<p>No This requirement is too subjective. The necessary actions are not identified to assess compliance. Some results, such as voltage outside a defined limit, should require notice to nuclear generators so that regulatory Technical Specification requirements for continued operation can be met. Otherwise, the units could either be forced offline or into limited operation. This standard should include the requirement that a written agreement be established between the RA, TOP and generators identifying the actions to be taken by mutual agreement. Reference</p>

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	IEEE Std 765-2002 Annex A for further details on this proposed change.
<p>Based on a review of the comments submitted and a review of the Functional Model, this requirement has been dropped from this standard.</p> <p>The Certification SARs currently being developed address agreements such as those you have suggested. Adding requirements for these agreements in this standard would be duplicative, and we are trying to avoid putting an entity into a situation where it could be fined twice for the same infraction.</p>	
<p><b>No – Comments about telemetry</b></p>	
David Kiguel Hydro One #1	<p>No</p> <p>The levels of non-compliance should not be gauged by the availability of telemetered data but should be measured by the RA's ability to monitor System Operating limits. Please see our comments under item # 44 (Regional and Interconnection Differences).</p>
<p>Based on a review of the comments submitted and a review of the Functional Model, this requirement has been dropped from this standard.</p> <p>The comments provided were used in revising the same requirement for the RA.</p>	
Gerald Rheault Manitoba #1,3,5,6	<p>No</p> <p>See comment in #10.</p> <p><i>{ Manitoba Hydro believes that the performance requirement objective is correct; however there are instances where real time data is not readily available and may have to be inferred or synthesized from other measurements. The measures section above should be modified to reflect this reality.}</i></p>
<p>Based on a review of the comments submitted and a review of the Functional Model, this requirement has been dropped from this standard.</p> <p>The comments provided were used in revising the same requirement for the RA.</p>	
<p><b>Yes – Comments indicating this is an RA responsibility</b></p>	
Lee Xanthakos SCE&G #1	<p>Yes/No</p> <p>I agree with requirements, but I do not agree that it written exactly the same as the RAs. As a matter of fact, my opinion of the entire draft is that a distinction is made between the requirements of an RA and a TOP. Why have two entities required doing the same thing?</p>
<p>Many entities agreed with you, and all of the redundant requirements have been removed from the revised standard.</p> <p>The SDT reviewed the Functional Model and determined that the requirement for ensuring operation within the limits being addressed in this standard is the responsibility of the RA, not the TOP. The TOP is only responsible for local network integrity.</p>	
Alan Boesch NPPD #1	<p>Yes</p> <p>I am very confused by this Standard. Who is going perform these functions the TOP or the RA. The Standard appears to have both performing the same function. The Standard needs to define the relationship between the RA and TOP. Maybe that could be accomplished in a opening paragraph. The requirements on the limits may be too broad. For example, an operating limit should also protect the safety of the public. If a facility was loaded to the point where it no longer met clearance requirements, the RA should respect these limits. The standards also seem to ignore voltage limits. There are limits to how high or low the voltage should be allowed to go before action is required. In addition to steady-state voltages, there should be a limit on transient voltages as well. It is not clear from this standard that these limits apply.</p>

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Many entities agreed with you, and all of the redundant requirements have been removed from the revised standard.

The SDT reviewed the Functional Model and determined that the requirement for ensuring operation within the limits being addressed in this standard is the responsibility of the RA, not the TOP. The TOP is only responsible for local network integrity.

NERC's primary focus is on reliability, not on safety. There are other organizations, such as OSHA that address public safety.

This standard's focus is limited to the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. The revised standard calls these, 'interconnection reliability operating limits' or IROs.

Several other commenters shared your concern that a requirement is needed that addresses a broader range of system operating limits. The SDT has advised that the Director-Standards that there may be a need for an additional standard to address the TOP's requirement to monitor its system operating limits.

Kathleen Goodman ISO NE #2	Yes/No This standard should recognize that the RA, CA and TOP functions may all be performed at one location with primary responsibility enforced at the RA.
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Although these functions may all be performed by a single entity, but the entity that accepts responsibility for the RA function must comply with all of the requirements assigned to the RA function. We do expect that there will be many entities that perform a combination of functions.

Kim Warren IMO #2	Yes/No Yes, only if it is recognized that in some jurisdictions, the TOP may be the same entity as the RA but does not necessarily perform all of the roles (eg. Switching, maintenance, outage & construction notification) that the Functional Model defines for the TOP.  Where the RA and the TOP are different, there needs to be a clear distinction of which system limits each are accountable for. This document should be reworked to be consistent with the recently issued OLD TF report.
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When an entity becomes certified to perform a function, that entity must accept responsibility for all of the duties assigned to that function. The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function.

**Yes – Comments about revising the phraseology**

Mike Miller Southern Co #1	Yes Are Operating limits the same as ratings?
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No – facility ratings are different from operating limits. The Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard drafting team has defined these terms as follows:

Facility Rating: The maximum or minimum voltage, current, real or reactive power flow through a facility that does not violate an applicable rating of any equipment comprising the facility

System Operating Limit: The maximum or minimum permissible loading on a facility or a limited group of facilities without violating applicable Facility Ratings and reliability criteria, as determined through system studies and/or operational experience. System Operating Limits may result from voltage, thermal or stability limits associated with one or more facilities. (Stability and voltage limits will be reflected as a permissible loading level). System Operating Limits may refer to limits in both real-time operations and planning studies.

This standard focuses on the subset of System Operating Limits that are called, ‘ Interconnection Reliability Operating Limits’ or IROLs. These are the subset of system operating limits that, if exceeded could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Stuart Goza TVA #1	Yes The applicable term “system operating limit” needs clarification.
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The term, ‘system operating limit’ was defined by the Determine Facility Ratings, System Operating Limits and Transfer Capabilities as follows: The maximum or minimum permissible loading on a facility or a limited group of facilities without violating applicable Facility Ratings and reliability criteria, as determined through system studies and/or operational experience. System Operating Limits may result from voltage, thermal or stability limits associated with one or more facilities. (Stability and voltage limits will be reflected as a permissible loading level). System Operating Limits may refer to limits in both real-time operations and planning studies.

This standard focuses on the subset of System Operating Limits that are called, ‘ Interconnection Reliability Operating Limits’ or IROLs. These are the subset of system operating limits that, if exceeded could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

Lee Westbrook Oncor #1	Yes See Requirement 1 comment. { Since limits may specify both magnitude and duration, real time data may need to be integrated to compare to limits. That should be made more apparent here or in the definition of data.}
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The definition for real-time data has been revised and addresses your concern:  
Real-time measured values, state estimator values derived from the measured values, or other calculated values derived from the measured values – may include directly monitored data, Inter-utility data exchange (e.g., Interconnection Control Area Communication Protocol and or SCADA Data), and manually collected data

William Smith Allegheny Pwr #1	Yes I agree with the intent. However, the RA is actually monitoring the actual real time data and comparing it against the system operating limits. A definition of “system operating limits” would allow for the removal of the parenthetical phrases in Requirement 1.
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This requirement has been dropped from this standard. Your comments were used in revising the similar requirement for the RA.

A definition of the subset of system operating limits addressed in this standard has been added to this standard. This subset of system operating limits is called, ‘interconnection reliability limits’ or IROLs. The addition of this term and its definition has allowed us to eliminate the parenthetical phrase in Requirement 1. This requirement for the TOP was dropped from this standard.

**No – Comments about expanding scope of requirements or measures**

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Francis Halpin BPA Bus Line #5,6	Yes I think what the TOP is monitoring is not the limits but the critical parts of the system to ensure the limits are not violated.
<p>Agreed. This requirement was dropped from this standard, but your comments were used in modifying the requirement for the RA.</p>	
Peter Burke ATC #1	<p>Yes</p> <p>I am not aware of many TOPs that have the tools needed to study voltage stability and/or transient stability for their systems in real time. MISO has these tools and is working to implement them. If the standard is implemented as written it will require a significant investment and development effort at many sites to put the necessary reliability monitoring tools in place. When done, we have duplication of effort and significant costs incurred with a limited benefit to the system.</p> <p>I do believe that the TOP should be capable of monitoring its system and analyzing to make sure it can survive first contingency events and maintain operations within acceptable guidelines. This requires a functioning State Estimator, Security Screening/Contingency Analysis, and Online Power Flow.</p>
<p>Under the Functional Model, the RA has the principal responsibility for monitoring reliability-related data within its Reliability Authority Area. The IROLs addressed in this standard fall into this category of reliability-related data. Some of the responsibility to monitor the system operating limits and voltage limits for the local network may be delegated to the TOP through written agreement, but those agreements are addressed in the standards being developed for compliance.</p>	
Alan Johnson Mirant #6 Albert M. DiCaprio MAAC #2 Bob Burkard NCMPPA1 # 3,4,5 Charles Yeung Reliant Energy #6 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Ed Riley CA ISO #2 Fred Frederick Vectren #3 James Stanton Calpine #5 Joe Minkstein PG&E #5 Joseph Buch Madison #4 Karl Kohlrus CWL&P #5 Lloyd Linke MAPP #2 Roman Carter So Co Gen 3,5,6 (6 members) Thomas Pruitt Duke #1 Tony Jankowski We-Energies #4 Vern Colbert Dominion #1	Yes

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**13. Requirement 2 – Do you agree with these levels of non-compliance for this requirement?**

<p><b>Original Levels of Non-compliance:</b></p> <ol style="list-style-type: none"> <li>1. Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours</li> <li>2. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours</li> <li>3. Not Applicable</li> <li>4. System operating limit(s) were not being compared to actual data</li> </ol>
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<p><b>Revised Levels of Non-compliance: None</b></p>
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**Summary Consideration:**

Several commenters indicated that this requirement should be removed or adjusted. Under the Functional Model, the RA has the principal responsibility for monitoring reliability-related data within its Reliability Authority Area. The IROLs addressed in this standard fall into this category of reliability-related data. Some of the responsibility to monitor the system operating limits and voltage limits for the local network may be delegated to the TOP through written agreement, but those agreements are addressed in the standards being developed for compliance. Several commenters indicated a need for a requirement for TOPs to monitor system operating limits. The system operating limits monitored by the TOP are not IROLs and are outside the scope of this standard. Because so many commenters indicated a desire for a requirement for the TOP, the SDT has advised that the Director-Standards that there may be a need for an additional standard to address the TOP’s requirement to monitor its system operating limits.

<p><b>No – Comments about mismatch between measures and non-compliance</b></p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No Our comments to Requirement 1 apply to Requirement 2 also <i>{ Levels of non-compliance should not be determined by the availability of telemetered data. Much of the information used to meet Measure 2 is derived from measured values by the state estimator or other calculations. An RAs level of non-compliance should reflect that function’s ability to meet the Requirement as reflected in the Measures: 1) have the SOLs available in real time, and 2) real-time data in a form that can be compared to the SOLs. Please revise the Levels of Non-compliance to conform to the Measures.}</i></p>
<p>Several commenters agreed with you, and your recommendations have been adopted and are reflected in the revisions made to this requirement for the RA.</p>	
<p>Albert M. DiCaprio MAAC #2</p>	<p>See comments to #11 <i>{The measure has to do with monitoring while the non-compliance has to do with data quality. Monitoring compliance is difficult – how does one say that the system is not being monitored correctly. However, the measures focus on whether or not the monitor is using good data.}</i></p>

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<p>This requirement was dropped from this standard, but your comments were used in addressing the levels of non-compliance for the RA.</p> <p>The levels of non-compliance have been adjusted to focus on monitoring. There are methods of measuring 'covert' behaviors, such as monitoring. One method of measuring 'monitoring' is to interview system operators who are working in a control room. The compliance monitor could ask the system operator to describe, in his or her own words, whether or not there are any IROLs that have been exceeded. By correctly answering this question, the system operator is demonstrating that monitoring has taken place.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>No</p> <p>The levels of non-compliance should be based on whether you have sufficient and appropriate data regardless of the means for gathering the data to compare and evaluate conditions in terms of operating limits and are you monitoring that data.</p>
<p>This requirement was dropped from this standard. For the similar RA requirement, most commenters indicated that the levels of non-compliance should focus on monitoring, and not on the availability of data. For the RA requirement, the levels of non-compliance were adjusted to shift the focus from data availability to monitoring.</p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>No</p> <p>Levels of non-compliance should focus on what the TOP does with the data not if it gets it or not.</p>
<p>This requirement was dropped from this standard, but your comments were used in addressing the levels of non-compliance for the RA.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No</p> <p>Levels of non compliance should not be measured by availability of telemetered data. Levels of non compliance should be focused on the ability to monitor current system operating limits and system conditions.</p>
<p>This requirement was dropped from this standard, but your comments were used in addressing the levels of non-compliance for the RA.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>No</p> <p>See answer to question # 11.</p> <p><i>{ Levels of non-compliance should not be determined by the availability of data. It should be based more on the RA's capability to monitor System Operating Limits and whether they took appropriate action to resolve issues preventing the RA from doing the monitoring. }</i></p>
<p>This requirement was dropped from this standard, but your comments were used in addressing the levels of non-compliance for the RA.</p>	
<p>Doug Hils Cinergy #1</p>	<p>No</p> <p>Again the Non- compliance levels are is a monitoring of the communication system rather than a measure of how the system is being operated.</p>
<p>This requirement was dropped from this standard, but your comments were used in addressing the levels of non-compliance for the RA.</p>	
<p>Toni Timberman BPA #1</p>	<p>No</p> <p>See response to Requirement 1</p> <p><i>{# 4 is reasonable, but the other levels of non-compliance are related to data availability, not to the requirement that the RA monitor limits and associated data. The responsibility for data availability rests with those providing the data. At the most, the RA should have processes and procedures (and alarms?) in place to make them aware of when the data is bad...ie, when a real-time measurement has not been available for xx minutes, or when a data point value has not changed for xx minutes. (It is possible for the data link to be bad and for data to</i></p>

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	<i>still be coming in but not updating).}</i>
<p>This requirement was dropped from this standard.          Having processes in place to identify ‘bad data’ is beyond the scope of this standard.</p>	
<p>Sam Jones          ERCOT #2</p>	<p>No          Same comments as #11 above.  <i>{The RA typically can’t control whether the data is provided, but may have acceptable and prudent measures in place to require the data. This comment would apply throughout this document.</i>  <i>The RA must ensure that system operating limits and interconnected reliability limits are established.</i>  <i>The measures do not relate to the requirement. The requirement is that the RA shall monitor, not that the limits be available or that data is available. Those measures should pertain to the function(s) responsible for providing the limits and ratings, such as the Generator Owner or the Transmission Owner.</i>  <i>The measure should be that the RA did indeed monitor the limits. What’s unstated is over what timeframe. Continuous monitoring? Hourly? Other?}</i>          It appears that there will likely be numerous Level 1 non-compliances unless a threshold is established. System Operation experience shows that metering signals fall in and out. If Level 1 indicates that every time a metering signal is lost, you are non-compliant. This needs some reconsideration. The drafting team should consider that state estimators can supply some of the data in a short term.</p>
<p>While this requirement has been dropped from the standard, your suggestions were applied to the same requirement for the RA.          Most commenters indicated that the levels of non-compliance should focus on monitoring, and not on the availability of data. The levels of non-compliance were adjusted on the RA’s requirement to shift the focus from data availability to monitoring.          Other sections of the standard were also revised to reinforce the RAs need to document what data it needs, and for other entities to provide that data as specified.</p>	
<p><b>No – Comments about telemetry</b></p>	
<p>FRCC          6-#1, 4-#2, 1-#2</p>	<p>No          Same comment as provided in response to question 11 for the RA.  <i>{ There can be legitimate reasons for telemeterd data being unavailable. Perhaps it would be more appropriate to change the timing in item 1 from “for up to 24 hours” to “for 12 to 24 hours”. Again, what is wrong with using state estimation data, or other calculated data? These non-compliance levels are not realistic.</i>  <i>If item 2 is intended to be a next level of non-compliance, it should be between 24 to 48 hours.</i>  <i>You do not ask a question about the compliance monitoring process, but we would like to provide comment on that section as well. Section 201 (e) states that the RA will demonstrate compliance thru the self certification process with re-certification on a schedule established by the compliance monitor. We do not agree with the re-certification part of this statement. The compliance monitoring of this standard is not for certification on an entity performing a function.</i>  <i>There is no need for any re-certification in connection with this standard. The self certification process is just a way for an entity to provide information to the compliance monitor that will be validated thru spot reviews etc. The re-certification statement appears in every compliance section in this document. It needs to be removed throughout.}</i></p>

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<p>While this requirement has been dropped from the standard, your suggestions were applied to the same requirement for the RA.</p> <p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p> <p>Self-certification is an established part of the existing NERC Compliance Enforcement Program. Self-certification is a process whereby an entity submits a form to its Compliance Monitor, indicating that the entity is in compliance with a specific requirement or set of requirements for a reliability standard.</p> <p>Self-certification forms generally require the signature of an officer of the corporation. Most self-certification forms are completed on an annual basis although they may be required more often.</p>	
<p>OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>Same comment at Q11.</p> <p>It appears to that there will likely have numerous Level 1 non-compliances unless a threshold is established. Anyone who has been a system operator knows that metering signals fall in and out. If level 1 indicates that every time you lose a signal for metering you are non-compliant, I think it needs reconsideration. The drafting team should consider that state estimators can supply some of this data in the short term.</p>
<p>While this requirement has been dropped from the standard, your suggestions were applied to the same requirement for the RA.</p> <p>Most commenters indicated that the levels of non-compliance should focus on monitoring, and not on the availability of data. The levels of non-compliance were adjusted for the RA’s requirement to shift the focus from data availability to monitoring.</p>	
<p>William Smith Allegheny Pwr #1</p>	<p>No</p> <p>There should not be non-compliance at level 1 or 2 when the RA or TOP stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working.</p>
<p>While this requirement has been dropped from the standard, your suggestions were applied to the same requirement for the RA.</p> <p>Most commenters indicated that the levels of non-compliance should focus on monitoring, and not on the availability of data. The levels of non-compliance were adjusted for the RA’s requirement to shift the focus from data availability to monitoring. The revised RA requirement includes a measure to ensure that the RA has a process or procedure in place to ensure monitoring can continue if automated real time system operating data is unavailable.</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>No</p> <p>Non-compliance Levels 1 and 2 need to include a lower limit before the non-compliance level would be in effect. For example, as written, the TOP function would be in Level 1 violation if it misses 1 second of actual telemetered data. This does not seem reasonable. We suggest adding the phrase “and no proper corrective action was taken” to the end of both Levels 1 and 2. Thus:</p> <p>6 Actual telemetered data needed for monitoring system operating limits unavailable, so surrogate value was monitored for up to 24 hours and no proper corrective action was taken</p> <p>4. Actual telemetered data needed for monitoring system operating limits was unavailable, so surrogate data was monitored for up to 48 hours and no proper corrective action was taken</p>

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<p>This requirement and its associated levels of non-compliance have been dropped from the standard. Under the Functional Model, the RA has the principal responsibility for monitoring reliability-related data within its Reliability Authority Area. The IROLs addressed in this standard fall into this category of reliability-related data. Some of the responsibility to monitor the system operating limits and voltage limits for the local network may be delegated to the TOP through written agreement, but those agreements are addressed in the standards being developed for compliance.</p>	
<p>Thomas Pruitt Duke #1 Susan Morris SERC #2  Robert Reed TS (See List)</p>	<p>No 6 Levels 1 and 2 imply that use of substitute data is unacceptable. 6 The only important level of non-compliance listed above is level 4. 6 Loss of telemetry for short periods is an unfortunate but routine matter – with all that telemetry equipment in the field, it cannot be expected that none of it ever have downtime.  4) If this requirement is changed as suggested above, then there should be some type of measures defined to capture the need for a certain level of observe-ability and accuracy of the telemetry data. The TOP should also have a list of identified limits on the SCADA system that is being monitored on a periodic basis. The TOP should also have a list of “RA assigned” Operating Security Limits identified by the RA and instructions on mitigation actions to perform if the OSL is reached and/or violated.</p>
<p>This requirement and its associated levels of non-compliance have been dropped from the standard. Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Stuart Goza TVA #1</p>	<p>No There should be some realistic acceptable period for failed telemetry before Level 1 violation occurs.</p>
<p>This requirement and its associated levels of non-compliance have been dropped from the standard. Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>No Please see comments on Question #11  <i>{ Level 1 may require a more stringent time frame than a 24 hour loss of telemetered data. RAs should have the most accurate information at all times. There is no apparent check whether the surrogate value is as accurate as the actual telemetered data. Reliability may be greatly jeopardized if the RA employs inaccurate data for a 24 hour period. We recommend for Level 1 compliance that surrogate values not be relied on for more than 4 hours. This provides incentive to recover from the loss of data well within the operating time frame of the wholesale market 8 hour block schedules. For Level 2 compliance, 24 hours is appropriate. As an alternative, there could be some recognition in the suggested compliance levels for the time of day (&amp; day of week) as to when the data is not available. This system visibility that this information provides is most critical when the system is in danger of a operating limit violation.}</i></p>

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<p>Many commenters indicated that temporary loss of data should not be a non-compliance event. The levels of non-compliance were revised to conform with the changes made to the requirement. The emphasis in the new levels of non-compliance is on ensuring that system operators have the limits and compare real time data against those limits. A penalty could be assessed if an entity didn't have a process or procedure in place to ensure monitoring can continue if automated real time system operating data is unavailable.</p>	
<p>Alan Johnson Mirant #6</p>	<p>No May not be reading this correctly, but it seems unreasonable that if some data is missing during a 24-hour period that the RA is deemed to be non-compliant. Seems like there should be allowance for some sort of tolerance before being deemed non-compliant.</p>
<p>While this requirement has been dropped from this standard, your comments were applied to the requirement for RA monitoring. Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Richard Kafka Pepco #1</p>	<p>No In many cases, state estimator data are an adequate replacement for telemetered data.</p>
<p>While this requirement has been dropped from this standard, your comments were applied to the requirement for RA monitoring. Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Peter Burke ATC #1</p>	<p>No Same as response provided for Question 11. <i>{ Level 1 non-compliance is written "up to 24 hours." This suggests that anything, even a single missed scan, qualifies as non-compliance. As worded there is a significant amount of room for interpretation as to what constitutes non-compliance. If MISO loses the ability to scan one reading from one RTU for a day, this should not be considered a violation. If an RTU is lost for a day, a decision needs to be made as to how critical the data is to reliable operations. If an entire ICCP link is lost, 10 minutes may be too long. That will most likely be a judgement call based on the data supplied via the link that is down and system conditions at the time of the failure (sunny and 65 degrees versus thunderstorms rolling through the system). This needs more work before using it to assign fines for non-compliance.}</i></p>
<p>While this requirement has been dropped from this standard, your comments were applied to the requirement for RA monitoring. Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>No See comment in #11 <i>{Manitoba Hydro agrees with using a set of levels to define non-compliance. However the set of limits defined here may not be appropriate and should be related to the risk on the system. In the event of loss of data, perhaps a lower set</i></p>

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	<i>of limits should be applied till the regular data can be re-established.}</i>
<p>This requirement has been dropped from this standard. The suggestion you made for requiring that there be a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable was adopted for the requirement that addresses RA monitoring. The revised standard does not include penalties for loss of data.</p>	
Lloyd Linke MAPP #2	<p>No</p> <p>In 1 and 2, the words “for more than 3 hours” should be added after the word unavailable. Loss of telemetry for short periods is an unfortunate but fairly routine matter – with all that telemetry equipment in the field, it can’t be expected that none of it ever has down-time.</p> <p>Level #1 should be 48 hours, level #2 should be 72 hours, and level #3 should have a 96 hour requirement. In many instances, 24 hours may be impractical especially with reliance on outside communication providers.</p>
<p>This requirement has been dropped from this standard.</p> <p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
Kim Warren IMO #2	<p>No</p> <p>Loss of a few telemetered quantities does not constitute an inability of the TOP to perform his “monitoring “(and analysis) functions if the State Estimator remains functional. (In fact State estimated quantities are deemed to be often more accurate than telemetered quantities .) Reporting of loss of actual telemetry should only be required when the TOP can no longer perform these functions. Furthermore, reporting each actual telemetry loss will create too much overhead for the TOP, the Regions and/or NERC.</p> <p>For a loss of the TOPs “monitoring function”, a minimum time standard should be built into this compliance issue similar to “Exceeding an Operating Limit but Not a Reportable Violation” (question 5 &amp; 6). There should be a time allowance for short term failures (i.e. &lt; 30 minutes) of failure before reporting is required.</p>
<p>This requirement has been dropped from this standard.</p> <p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
Fred Frederick Vectren #3	<p>No</p> <p>At what point does telemetered data being unavailable constitute non-compliance (1 second, 1minute, 1 hour, etc.)?</p>
<p>This requirement has been dropped from this standard.</p> <p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
Ken Skroback AL Elec Coop #4	<p>No</p> <p>I think that there needs to be some way to accommodate short term data outages such as a loss of a transducer, an RTU failure or a telecom failure without causing non-compliance. Maybe a loss of data up to 24 hours would be compliant while those exceeding 24 hours are not. At some point everyone will have some equipment failures</p>

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<p>This requirement has been dropped from this standard.</p> <p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>This non-compliance matrix is completely inappropriate and ineffective. What is the scope of the telemetering unavailability required to achieve these levels of non-compliance? Is the goal here to achieve compliance with reliability standards or measure the amount of redundant telemetering equipment? It is clearly possible to maintain reliability absent some telemetering as long as an effective State Estimator is in use. Additionally, how much telemetering must be unavailable in order to be non-compliant: One point, five points, 5,000 points, etc.? Compliance should be measured against how many violations that an area had which were not cleared over a specified period of time. Only the RA should make the determination of how much telemetering is enough to have effective limit management.</p>
<p>This requirement has been dropped from this standard.</p> <p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p><b>No – Comments with recommendations for alternate levels of non-compliance</b></p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>No</p> <p>Should be revised to state that as long as limits are observable the TOP is compliant.</p>
<p>This requirement has been dropped from this standard.</p> <p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>If the requirement was changed to the TOP providing real time data, equipment limits, and model updates to their RA as specified by their RA, then the levels of non-compliance could be:</p> <ol style="list-style-type: none"> <li>(1) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for up to 24 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</li> <li>(2) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period of 24-36 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</li> <li>(3) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period of 36-48 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</li> <li>(4) Actual TOP telemetered data specified is not be provided by the TOP to the</li> </ol>

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	<p>RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period greater than 48 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant), or the TOP did not station personnel at the Station or Plant as directed by the RA to provide this data while telemetry was being restored, or the TOP did not provide equipment limits as requested, or The TOP did not provide modeling update information until after the energization of new facilities.</p> <p>Note: the idea is that depending on system conditions, the RA may be able to rely on their previous operational planning analysis (next day analysis) for a day or so. However, if system conditions warrant, the RA should have the authority to direct the TOP to man the station and if the TOP refuses that should be considered a significant infraction.</p> <p>Need to define “surrogate value” and “surrogate data”.</p>
<p>The revised standard includes a requirement that the TOP provide data to its RA. The original requirement for the TOP to monitor system limits has been dropped from this standard.</p> <p>Many commenters objected to the emphasis on availability of data. The revised standard includes a requirement that the RA have a process or procedure in place to ensure monitoring will continue when automated real-time system operating data is unavailable. In the revised standard, the absence of this process or procedure is considered non-compliant behavior.</p>	
<p><b>Comments with a mix of recommendations</b></p>	
<p>Joanne Borrell Ed Stein Ray Morella FirstEnergy #1, 3,6  ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>(1) Operating Security Limits are not usually monitored in real time.</p> <p>(2) There should not be a non-compliance at level 1 or 2 when a Reliability Coordinator (RC) or Transmission Operator (TOP) stations an operator at a substation or plant to monitor operating data if the telecommunications equipment is not working. The existing standard forces a non-compliance whenever the telecommunications equipment is not working.</p> <p>(3) Requirements 201 and 202 are very similar. Requirement 201 applies to Reliability Coordinators. Requirement 202 applies to Transmission Operators. The requirements are duplicative. The standard should require system conditions to be monitored by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing the monitoring if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.</p>
<p>In the first draft of this standard, this requirement was poorly stated. The intent was to require monitoring of real-time data and comparing the real-time data against IROs. The revised standard states this much more clearly. The definition of real time data has been updated and is being posted for comment when the revised standard is posted. The revised standard includes the new term, “Interconnection Reliability Operating Limit” and a definition of this type of system operating limit will be posted for comment when the revised standard is posted.</p> <p>The revised standard makes allowances for the manual collection of real time data. The definition of ‘real time data’ has been modified, and no longer includes the reference to data sampling rates.</p> <p>This duplicate requirement for the TOP has been dropped from this standard. The RA is the only function with responsibility for this requirement.</p>	

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<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>Operating Security Limits are not usually monitored in real time. They are usually fixed values that are determined from operating studies. The only limits that might be monitored in real time are those that are dependent on actual weather conditions. It is not a requirement to determine Operating Security Limits based on weather conditions. Actual Operating Measurements are what need to be monitored in real time and compared to the Operating Security Limit. This standard should be updated to reflect the difference between a limit, a monitored value, and a monitored value that exceeds a limit.</p> <p>The description of Level 1 Non-compliance and Level 2 Non-compliance under ‘Levels of Non-compliance for this Requirement’ should be changed. Level 1 non-compliance should read ‘Actual telemetered data or a surrogate for actual telemetered data needed for monitoring deviations from system operating limits was unavailable for 24 hours’. Level 2 non-compliance should read ‘Actual telemetered data or a surrogate for actual telemetered data needed for monitoring deviations from system operating limits was unavailable for 48 hours’. There is nothing wrong with using a manual reading phoned in from a substitution or using a value calculated from surrounding parameters. A value calculated from surrounding parameters might be better than an incorrect telemetered value. Some State Estimation systems use a value calculated from surrounding parameters instead of the telemetered value for certain circumstances.</p>
<p>In the first draft of this standard, this requirement was poorly stated. The intent was to require monitoring of real-time data and comparing the real-time data against IROLs. The revised standard states this much more clearly. The definition of real time data has been updated and is being posted for comment when the revised standard is posted. The revised standard includes the new term, “Interconnection Reliability Operating Limit” and a definition of this type of system operating limit will be posted for comment when the revised standard is posted.</p> <p>The revised standard makes allowances for the manual collection of real time data. The definition of ‘real time data’ has been modified, and no longer includes the reference to data sampling rates.</p> <p>This duplicate requirement for the TOP has been dropped from this standard. The RA is the only function with responsibility for this requirement.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>No</p> <p>Level 4 is the most important metric for this Requirement and we feel that Level 1, 2 and 3 are unnecessary.</p>
<p>This requirement was dropped from this standard. Your suggestion was incorporated into the changes made to the requirement for RA monitoring.</p>	
<p><b>Comments indicating inconsistent use of terminology</b></p>	
<p>Alan Boesch NPPD #1</p>	<p>Yes/No</p> <p>The levels of non-compliance use the term “Actual telemetered data” while the footnote to the measures states that real-time, state estimated or calculated data is acceptable. There is at a minimum confusion with the way these terms are stated if not outright conflict. The standard needs to be consistent between the measurement and level of non-compliance.</p>
<p>While this requirement was dropped from this standard, your suggestion was incorporated into the changes made to the requirement for RA monitoring. In the revised standard, there is a revised definition of ‘real-time data’ and the term ‘real time data’ is used throughout the standard. The footnote is not included in the revised standard.</p>	
<p><b>Other comments</b></p>	
<p>Ed Riley CA ISO #2</p>	<p>The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.</p>

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<p>It is important that entities responsible for compliance understand the ramifications of compliance as well as the standard itself. The standard, therefore, will contain compliance requirements along with the standard itself. This principle is inherent in the development of all new standards.</p>	
<p>Bob Burkard NCMPA1 # 3,4,5 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Francis Halpin BPA Bus Line #5,6 James Stanton Calpine #5 Joe Minkstein PG&amp;E #5 Mike Miller Southern Co #1 Tony Jankowski We-Energies #4 Vern Colbert Dominion #1</p>	<p>Yes</p>

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### 14. Requirement 3 – Do you agree with this requirement and its associated performance/outcome and measure/s?

#### **Original Requirement:**

The Reliability Authority (RA) shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other associated RAs] to maintain the models needed to support real time monitoring and reliability analyses.<sup>1</sup>

The RA shall specify when to supply data (based on the RA's hardware and software requirements, and the time needed to do the operational planning analysis.)

The RA shall notify the Compliance Monitor if an RA, BA, IA Generator or TOP does not provide data as requested.

#### **Measure(s):**

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

#### **Outcome(s) (100% Compliance):**

The RA shall specify and collect the data it needs [from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators and Transmission Operators (TOPs) and other RAs] to maintain the models needed to support real time monitoring and reliability analyses. The RA shall maintain a record that shows data requested but not received.

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### Revised Requirement:

The reliability authority shall specify and collect the data it needs to support real-time monitoring, operational planning analyses and real-time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits. The reliability authority shall collect this data from the entities performing functions that have facilities monitored by the reliability authority, and from entities that provide facility status to the reliability authority. This includes specifying and collecting data from the following:

- Generator owners
- Generator operators
- Reliability authorities
- Transmission operators
- Transmission owners

The reliability authority shall specify when to supply data (based on its hardware and software requirements, and the time needed to do its operational planning analyses.)

The reliability authority shall notify its compliance monitor when an entity does not provide data as specified.

### Measure(s)

1. The reliability authority shall have a documented specification for data needed to build and maintain models needed to support real time monitoring, operational planning analyses and real time assessments relative to interconnection reliability operating limits.
  - Specification shall include a list of required data, a mutually agreeable format, and timeframe and periodicity for providing data.
  - Specification shall address the data provision process to use when automated real-time system operating data is unavailable.
2. The reliability authority shall distribute its data specification to the entities that have facilities monitored by the reliability authority and to entities that provide facility status to the reliability authority.
3. The reliability authority shall notify its compliance monitor when an entity that has facilities monitored by the reliability authority, or an entity that provides facility status to the reliability authority, does not provide data as specified.
  - The notification shall take place within five business days of discovering that the data is missing.

### Summary Consideration:

This requirement has been revised based on industry comments and a review of the Functional Model. The list of functions that need to provide data to the RA has been revised – the TOP and the Generator Operator have been added to this list, and the BA and IA have been dropped from the list. Many commenters indicated that having the RA 'request' data was troublesome because the RA may not always be aware of system changes. To accommodate this, the language in the requirement was changed so that instead of requesting data, the RA will 'specify' what data it needs. Language was added to clarify that the RAs specification for data is limited to those entities that have facilities monitored by that RA. Based on comments submitted, the "industry accepted format" phrase has been replaced with "mutually agreeable format," and the term, 'technically accurate' was modified to say, 'accurate.'

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The scope of this requirement was expanded to include the collection of data needed to build as well as to maintain system models.

The Outcomes section was redundant and was eliminated.

No – Comments indicating need to better define data	
Joseph Buch Madison #4	No  The “data” that is to be requested is not defined. As part of this standard one should be able to initially define a handful of key data elements that are required. These key elements would include the minimum information required to support reliability analyses. See question 47 for additional comments.
<p>The standard has been revised to state that the RA must ‘specify’ what data it needs and must distribute this specification to the entities that have facilities monitored by that RA.</p> <p>The standard does not include a list of data to be provided, since the data needed by each RA may be unique. Any list would be too specific for some RAs and not specific enough for other RAs. Instead, the revised requirement states that the RA shall specify the data it needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area</p>	
Fred Frederick Vectren #3	No  The RA should utilize existing data models whenever available. Collection of data should be coordinated with other data model building efforts to minimize duplication of efforts.
<p>The standard has been revised to state that the RA must ‘specify’ what data it needs and must distribute this specification to the entities that have facilities monitored by that RA. Hopefully, this will eliminate any duplication of data collection.</p> <p>There is no single standard that addresses data collection. This standard addresses just the data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area.</p>	
Gregory Campoli NY ISO #2	No  The reference to notification of Compliance Monitor should not be specific to this or another standard and should be centralized in a compliance document. There also needs to be a clear distinction between data for modeling reliability analysis and data for real time system monitoring.
<p>The SDT included the reference to the Compliance Monitor because there didn’t seem to be any other way of connecting the requirements for specifying and providing the data. If the RA doesn’t notify the Compliance Monitor that data hasn’t been provided, how will the Compliance Monitor know that data hasn’t been provided? The SDT will ask the industry for feedback on this recommendation.</p> <p>In the revised standard, the requirement has been re-phrased so that the RA shall develop a specification for data it needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area.</p>	
Raj Rana AEP #1,3,5,6	No  There needs to be an industry minimum specification for the type of data required, similar to Appendix 4B “Electric System Security Data.” This is required to ensure a minimum standard is set for the type and quality of reliability analysis that the RA’s are to perform. Additionally, as worded this requirement is too vague and burdensome to the TOP. Basically, it implies that if the RA requests a piece of information, the TOP is to provide that information regardless of cost or actual benefit to the RA of having the data (though nowhere in this standard is there a requirement for them to explicitly do so). There should be a requirement that the

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	<p>data requested meet an industry reasonability standard for being classified as reliability related data. An update of Appendix 4B could accomplish this.</p> <p>Once the above commnet are addressed, then it is appropriate for the RA to specify and collect the data it needs, within the guidelines set forth in Appendix 4B, to maintain the models needed to support real time monitoring and reliability analysis.</p> <p>There needs to be a requirement in this standard for the BA, IA, Generator and TOP to provide this data to the RA on an ongoing basis and the associated penaties for them if they do not. What good is it for the RA to specify the data they need if the those who have the data are not required to continually supply it? Yes, this requirement does specify that the RA is to notify the Complinance Monitor if these entities do not provide the data requested. And yes, Requirement #8 requires the TOP to provide data no less then 7 days prior to energization of new facilities. But where is the requirement that says they must continually provide the data?</p> <p>Additionally, without an industry minimum standard similar in concept to Appendix 4B, how do we resolve the issue where a RA desires individual unit dispatch information but the Generator and BA only desire to provide zonal dispatch data?</p> <p>Also, the requirement of the RA to “collect the data it needs” is too vague. Also, the requirement of the RA specifying when to supply data is too vague. The data supplied should be data that is mutually agreed upon between the RA and respective party along with the timing of the request. The respective party should not have to obtain the same hardware and software as RA.</p>
<p>The standard has been revised to state that the RA must ‘specify’ what data it needs and must distribute this specification to the entities that have facilities monitored by that RA.</p> <p>The standard does not include a list of data to be provided, since the data needed by each RA may be unique. Any list would be too specific for some RAs and not specific enough for other RAs. Instead, the revised requirement states that the RA shall specify the data it needs to support real-time monitoring, operational planning analyses and real time assessments of its reliability area.</p> <p>Under the Functional Model, the RA has ultimate responsibility for the reliability of the interconnected bulk power system. The RA should not need to negotiate to collect the data it needs to support its responsibilities in protecting reliability. There should be some opportunity for the RA and the functions that work with the RA to agree upon an acceptable format for the data. The intent is to provide some room for discussion so that the functions reporting to the RA aren’t held to a stricter standard than is necessary with respect to data format.</p> <p>The revised standard includes the following language:</p> <ul style="list-style-type: none"><li>• The entity responsible shall provide data to the requesting RA, within the time frame specified, in the mutually agreed upon format.</li></ul>	

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<p>Peter Burke ATC #1</p>	<p>No</p> <p>There needs to be a mechanism in place to ensure that the RA is notified when system changes are made. This addresses the problems we've seen with lack of coordination between the people building/updating/etc.. facilities and the people responsible for the reliable operation of the system.</p> <p>However, there is some concern about the documentation required. The amount of documentation needed to track all of the possible changes in data may overwhelm the RA if it oversees a significant portion of the interconnection.</p> <p>What is meant by "it needs" in the statement "The Reliability Authority shall specify and collect the data it needs. . .?" A standard that imposes sanctions must be more specific about what is needed.</p> <p>In the statement, "The RA shall notify the Compliance Monitor. . .," there's no mention of time frame, no specification of how soon after failure the RA must notify the Compliance Monitor.</p> <p>This requirement should apply to Distribution Providers (DPs) in the same way it applies to BAs, Ias, Generators, TOPs, and "associated RAs."</p>
<p>Several commenters indicated the concern that the RA may not be aware of system changes. To address this, the standard was changed so the RA must develop and distribute a data specification document – other requirements in the standard address provision of data according to the data specification. These changes should result in a situation where the RA does not need to contact other functions and request data – the data should be provided in accordance with the data specification.</p> <p>The requirement was revised to indicate that the compliance monitor shall be notified within five business days of recognizing that data is missing.</p> <p>This standard is limited to addressing data needed to support real-time monitoring, operational planning analyses and real time assessments of its reliability area. The DPs do not have any of this data.</p>	
<p><b>Comments indicating need to refocus or add to requirements</b></p>	
<p>Sam Jones ERCOT #2</p> <p>OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>Yes/No</p> <p>The Requirement should be refocused to state that the RA needs to maintain accurate models and run studies to determine limits rather than directing the RA to collect the data it needs. There should be Requirement for the Transmission Owner, Generation Owner, LSE, and TOP to provide the RA with the data it needs for its studies.</p> <p>Under Requirements 6 and 7, minimum times are specified for provision of "monitoring" data provision. However, no similar minimum time line is stated for this Requirement. For consistency, a minimum time should also be stated. This time specification should provide sufficient time for the RA, etc., to perform data base modelling and development and confirmation of limits.</p>
<p>This standard must be developed within the scope of the associated SAR. The SAR for this standard included the following requirement for RAs:</p> <ul style="list-style-type: none"> <li>Collect data needed for performing real time reliability analyses</li> </ul> <p>Several commenters addressed timing of data provision and indicated that each RA may have different timing requirements. Accordingly, the standard was changed to give the RA the flexibility to identify its timing requirements as part of its data specification.</p>	
<p>Susan Morris SERC #2</p>	<p>Yes</p> <p>The collection and processing of the data requirements could be a RA data management responsibility. Isn't there a need to develop a requirement to show</p>

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	<p>that the data is used in the analysis? Instead of evaluating the supply of data, shouldn't the focus be on monitoring and assessing transmission reliability?</p>
<p>This standard must be developed within the scope of the associated SAR. The SAR for this standard included the following requirement for RAs:</p> <ul style="list-style-type: none"> <li>• Collect data needed for performing real time reliability analyses</li> </ul> <p>This standard does include requirements that address monitoring and assessing transmission system reliability.</p>	
<p>Compliance Mangers</p>	<p><u>Proposal</u></p> <p>The RC is required to do "Real Time Monitoring" of data and equipment status that relates to specific, current, System Operating Limits, therefore there should be a measure for this requirement, with sanctions indicated for non-compliance</p> <ol style="list-style-type: none"> <li>1. Acceptable parameters of monitoring must be defined. On the assumption that the transmission elements that will be monitored have been determined, and the Operating Security Limits have been defined, then:Acceptable update frequency and accuracy of "Real Time Monitoring" of the data and equipment related to the OSL must be defined.</li> <li>2. What data and equipment will be monitored must be established by the Reliability Coordinator and agreed to by the Transmission Provider.</li> </ol> <p>The Transmission Provider must provide the data and equipment status information as required by the Reliability Coordinator. (Within agreed frequency of update and accuracy of data.)</p>
<p>Monitoring is addressed in another requirement. This requirement addresses just the data specification to ensure that the RA has the data it needs to monitor and assess its system with respect to IROLs. As revised, this standard allows entities to provide data through other than automated systems. Requirements for the RA's equipment are addressed in Certification Standards.</p> <p>The RA has ultimate responsibility for the reliability of the transmission system. The RA does not need to negotiate with Transmission Providers for the data it needs.</p>	
<p><b>Comments indicating need to make changes to improve understanding</b></p>	
<p>Toni Timberman BPA #1</p>	<p>Yes/No</p> <p>In the text of the Requirement, the term "Generators" is not definitive enough to describe who is responsible for providing the "data". A Generator Operator may not have access to the dynamic model, and the Generator Owner may not have access to the real-time data.</p> <p>TOW needs to be added to the text of the requirement as one of the entities responsible for providing data to the RA.</p> <p>The words "Industry Accepted Format" and "technically accurate" should be deleted from the Measures, since an Industry Accepted Format does not exist, and at times Technically Accurate information is not available. There may not be generator test data available, so default data is used in the studies. Maybe "best available data" would be more realistic. Actually, I suggest that the text for measures 1 &amp; 2 be modified to end at 'timeframe', and the rest of the sentence be deleted.</p>

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<p>All of your suggestions were incorporated into the revised standard.</p> <p>The Generator was changed to Generator Owner.</p> <p>The TOW was added to the list of functions that must supply data to the RA.</p> <p>The term, 'industry accepted format' was changed to 'mutually agreeable format'.</p> <p>The term, 'technically accurate' was changed to drop the word, 'technically'.</p>	
Ed Riley CA ISO #2	<p>Yes</p> <p>Wording in the second paragraph of the Requirements should be changed to read "The RA shall specify when the data is to be supplied"</p>
<p>The revised requirement includes a measure that indicates what must be included in the RA's data specification. The details of that measure include a requirement that the RA specify a timeframe for providing data.</p>	
Joanne Borrell Ed Stein Ray Morella FirstEnergy #1, 3, 6 ECAR Ops Panel #1 – 8, #5– 1, #2 – 2	<p>Yes</p> <p>We recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state '----- timeframe, and notation that data be technically accurate and complete'. We would rewrite these measures to state '-----timeframe, and notation that data be accurate and complete'. What is the difference between accurate data and technically accurate date? Is technically accurate data better that accurate data? Is technically accurate date different that accurate data?</p>
<p>The standard was revised to eliminate the adjective, 'technically' from the standard. There is no difference between technically accurate and accurate.</p>	
Doug Hils Cinergy #1	<p>Yes</p> <p>Defination for technically accurate data needed.</p>
<p>The standard was revised to eliminate the adjective, 'technically' from the standard. There is no difference between technically accurate and accurate.</p>	
Alan Johnson Mirant #6	<p>Yes</p> <p>Note that this "industry accepted format" must be somehow defined by the industry (via either NERC or NAESB as appropriate), and not vary from RA to RA.</p>
<p>Several commenters indicate that there is no single 'industry accepted format' and suggested that this phrase be eliminated from the standard. In the revised standard, the term, 'industry accepted format' was changed to 'mutually agreeable format'.</p>	
<p><b>Yes – Comments indicating need to better define data</b></p>	
Tony Jankowski We-Energies #4	<p>Yes</p> <p>This Requirement should define all data required, not just changes.</p>
<p>Several commenters indicated that this standard should be expanded to address a wider range of data. The requirement was expanded to address all data needed to support real-time monitoring, operational planning analyses and real time assessments of its reliability area.</p>	
Tom Petrich (5) PG&E #1	<p>Yes</p> <p>There needs to be agreement among the various functions on the exact acceptable format and timing for data transfer to void unnecessary duplication of work. The generator function should provide data to the RA through the TOP, instead of to both the RA and the TOP, to avoid unintended inconsistency. Please add "the format and timing for data transfer should be coordinated and agreed to by the impacted parties".</p>

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Under the Functional Model, the RA has ultimate responsibility for the reliability of the interconnected bulk power system. The RA should not need to negotiate to collect the data it needs to support its responsibilities in protecting reliability. There should be some opportunity for the RA and the functions that work with the RA to agree upon an acceptable format for the data. The intent is to provide some room for discussion so that the functions reporting to the RA aren't held to a stricter standard than is necessary with respect to data format.

The revised standard includes the following language:

- The entity responsible shall provide data to the requesting RA, within the time frame specified, in the mutually agreed upon format.

<p>Alan Boesch NPPD #1</p>	<p>Yes/No The standard should state what type of information may be required by the RA. A list similar to that in NERC Operating Policy 4 should be included and the RA could identify what data from this list is required. In addition the RA must make the request with sufficient time for the BA, IA, TOP or other RA to implement the data request.</p>
<p>The standard does not include a list of data to be provided, since the data needed by each RA may be unique. Any list would be too specific for some RAs and not specific enough for other RAs. Instead, the revised requirement states that the RA shall specify the data it needs to support real-time monitoring, operational planning analyses and real time assessments of its reliability area.</p> <p>The standard was changed so the RA must develop and distribute a data specification document. This change should result in a situation where the RA does not need to contact other functions and request data – the data should be provided in accordance with the data specification.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>Yes Manitoba Hydro agrees with the requirement to provide data to the RA. The accuracy of this data is not referenced here. Generally data should be accurate. There are all sorts of reasons why it may not be accurate and a process should be in place to keep improving the data and having a means to identify bad or questionable data.</p>
<p>Having processes in place to identify 'bad data' is beyond the scope of this standard.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>Yes However, we suggest the requirement be more general stating "...data it needs from all entities using the transmission system to maintain the ...", deleting the list of some but not all functions.</p>
<p>The requirement was revised to indicate the RA may request data from any of the functions with facilities monitored by the RA.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>Yes The data the RA needs to collect in order to maintain models should be determined through some collaborative process involving the interested parties. The determination of what data to collect should not be based on subjective, arbitrary requests but rather on defensible criteria which are consistent across the industry.  Confidentiality of third party market sensitive information may be an issue which needs to be addressed.</p>

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<p>Under the Functional Model, the RA has ultimate responsibility for the reliability of the interconnected bulk power system. The RA should not need to negotiate to collect the data it needs to support its responsibilities in protecting reliability. There should be some opportunity for the RA and the functions that work with the RA to agree upon an acceptable format for the data. The intent is to provide some room for discussion so that the functions reporting to the RA aren't held to a stricter standard than is necessary with respect to data format.</p> <p>The revised standard includes the following language:</p> <ul style="list-style-type: none"> <li>The entity responsible shall provide data to the requesting RA, within the time frame specified, in the mutually agreed upon format.</li> </ul> <p>The RA is expected to sign a confidentiality agreement as part of the RA Certification process.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>Yes</p> <p>However, as stated in an earlier question, this assumes that the initial data is obtained via requirements for certification. We believe that the requirement for specification of data should not depend on if it is initial data, or updates. However, the RA should have a process in place for collecting that data as new facilities come into service or change.</p> <p>The outcome seems to be just a restatement of the requirements. It does not add anything to the standard.</p>
<p>Several commenters indicated that this standard should be expanded to address a wider range of data. The requirement was expanded to address all data needed to support real-time monitoring, operational planning analyses and real time assessments of its reliability area.</p> <p>The Outcomes section of all standards has been removed for the reason you stated – it was redundant.</p>	
<p>Vern Colbert Dominion #1</p>	<p>Yes</p> <p>Collection of data should be an RA responsibility</p>
<p>Agreed. The duplicate requirement for the TOP was dropped from the standard.</p>	
<p>Thomas Pruitt Duke #1 Robert Reed TS (See List)</p>	<p>Yes</p> <p>The collection and processing of the data requirements could be a RA data management responsibility.</p>
<p>Agreed. This is supported in the standard.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>Yes</p> <p>In general we agree with the requirement. However, it is up to the RA when and how the data will be collected and determined to be reliable. The primary issue we have with this requirement is the need to maintain a record of requested data and an identification of data not delivered.</p>
<p>The language in the requirement was changed so the RA does not 'request' data – instead the RA produces and distributes a data specification. With this change, the RA will need to keep a record of its data specification, not its data requests. The RA will need to notify the Compliance Monitor so the Compliance Monitor can address non-compliance with entities that don't provide the needed data.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>Yes</p> <p>A form needs to be developed to allow the different authorities to submit this data.</p>

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There are many different methods of collecting data – some RAs collect data electronically. Having a form would, in some cases, require more work than is necessary. This suggested change was not incorporated into the revised standard.

<p>Albert M. DiCaprio MAAC #2          Bob Burkard NCMPA1 # 3,4,5          Charles Yeung Reliant Energy #6          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          James Stanton Calpine #5          Joe Minkstein PG&amp;E #5          John Blazekovich Exelon #1,3,5,6          Karl Kohlrus CWL&amp;P #5          Kim Warren IMO #2          Lee Westbrook Oncor #1          Lee Xanthakos SCE&amp;G #1          Lloyd Linke MAPP #2          Mike Miller Southern Co #1          Richard Kafka Pepco #1          Richard Schwarz PNSC #2          Roman Carter So Co Gen 3,5,6 (6 members)          Stuart Goza TVA #1          Todd Lucas (6?) Southern Co #1          William Smith Allegheny Pwr #1</p>	<p>Yes</p>
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**15. Requirement 3 – Do you agree with these levels of non-compliance for this requirement?**

<p><b>Original Levels of Non-compliance:</b></p> <ol style="list-style-type: none"> <li>1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete )</li> <li>2. Data was not requested or there was no record of specification</li> <li>3. Not Applicable</li> <li>4. Not Applicable</li> </ol>
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<p><b>Revised Levels of Non-compliance:</b></p> <ol style="list-style-type: none"> <li>1. Data specification incomplete (missing either list of required data, a mutually agreeable format, timeframe for providing data or a data provision process to use when automated real-time system operating data is unavailable)</li> <li>2. No data specification or the specification was not distributed to the entities that have facilities monitored by the reliability authority and the entities that provide the reliability authority with facility status</li> <li>3. Not applicable</li> <li>4. Not applicable</li> </ol>
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**Summary Consideration:**

The levels of non-compliance were revised to conform with the changes made to the requirement and its measures.

<b>No – Comments about inappropriate levels of non-compliance</b>	
Lloyd Linke MAPP #2	No Level #1 and #2 non-compliance should be level #3 and level #4 non-compliance. Level #1 and level #2 should be changed to “Not Applicable”.
The financial penalties associated with non-compliance can be quite severe. Not having a data specification is not likely to have as severe an impact on the reliability of the interconnected bulk electric system as exceeding an IROL for a time period greater than $T_v$ .	
Joseph Buch Madison #4	No Without certain data the RA cannot perform one of it’s primary functions, that of reliability ananlysis. I would support a level 4 non-compliance if the RA does not request these key items.
The financial penalties associated with non-compliance can be quite severe. Not having a data specification is not likely to have as severe an impact on the reliability of the interconnected bulk electric system as exceeding an IROL for a time period greater than $T_v$ .	
FRCC 6-#1, 4-#2, 1-#2	No The 2 <sup>nd</sup> level is confusing. If data was not requested, perhaps it was not needed. It would seem to go back to what the specification is requiring to be provided. Perhaps a more important level would be if the RA requested data, did not receive it, and did not attempt any further to get it. In the 2 <sup>nd</sup> level statement is says “or there was no record of specification”. Isn’t that essentially the same as the 1 <sup>st</sup>

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	<p>level?</p> <p>Again, you did not ask about the compliance monitoring section. Please see comment stated earlier about self-certification and re-certification.</p>
<p>The requirement was revised to shift from having the RA 'request' data to having the RA 'specify' and distribute a data specification. Commenters indicated numerous logistical problems associated with having the RA request data on a case-by-case basis.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>No</p> <p>Should this be a yes – no answer? What if a party was required to provide 10 parameters and provided 9 of the 10. The current levels would have this be a violation. Should there be two interim levels (3 and 4: over or under 85% of required data for example) which provide a bit of leniency? As written, the compliance levels don't agree with this portion of the standard they are too vague</p>
<p>There is another requirement that addresses the provision of data. This requirement addresses whether the RA identified what data it needed, and communicated those requirements to the entities that need to provide the data.</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>No</p> <p>Non-compliance Level 1 states "data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)". It is not clear why the RA should be held in non-compliance for "technically inaccurate or incomplete" data submitted by other functions. We suggest deleting "or some data technically inaccurate or incomplete".</p>
<p>The RA produces the data specification – if the data specification is incomplete, then the RA should be sanctioned. The original levels of non-compliance did not state this clearly enough.</p> <p>The non-compliance has been revised and include the following language:</p> <ul style="list-style-type: none"> <li>• Data specification(s) was not complete (list of required data, a mutually agreeable format, and timeframe for providing data)</li> </ul>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>The phrase "some data technically inaccurate or incomplete" in level 1 would not apply to the RA. It would appear from the phrase "notation" in the "Measure(s)" section that level 1 compliance would hinge on whether or not the RA notified the supplier that the data should be accurate and complete, since that is the only part they have control over.</p> <p>This requirement penalizes the RA for not asking for data that it may not know it needs. For example, if a TOP energizes a new station, how is the RA supposed to know that the station exists? If the RA doesn't know, it can't request data and can't tell that it's missing. The RAs do need a standardized way of requesting and receiving updates to allow them to maintain their models in a timely manner. Not sure the penalties as defined get us there.</p>
<p>The RA produces the data specification – if the data specification is incomplete, then the RA should be sanctioned. The original levels of non-compliance did not state this clearly enough.</p> <p>Several commenters noted, as you did, that the RA may not know about system changes that result in the need for data. The requirement was revised so the RA needs to develop and distribute a data specification, rather than individual data requests.</p>	
<p>Sam Jones ERCOT #2 OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>No</p> <p>Please see the first paragraph in our comment to Q14 above.</p> <p><i>{The Requirement should be refocused to state that the RA needs to maintain accurate models and run studies to determine limits rather than directing the RA to collect the data it needs. There should be Requirement for the Transmission Owner, Generation Owner,LSE, and TOP to provide the RA with the data it needs</i></p>

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	<p><i>for its studies.}</i></p> <p>The RA typically has no control of whether the data is provided, but may have prudent and acceptable measures in place which require the data.</p>
<p>This standard must be developed within the scope of the associated SAR. The SAR for this standard included the following requirement for RAs:</p> <ul style="list-style-type: none"> <li>Collect data needed for performing real time reliability analyses</li> </ul> <p>The standard was revised so the RA needs to develop and distribute a data specification, rather than individual data requests. Corresponding changes were made to other requirements, to ensure that data is provided 'as specified by the RA' rather than 'as requested by the RA'.</p>	
<p><b>No – Comments indicating non-compliance doesn't address intent of requirement</b></p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>There is not compliance level measuring what the RA actually does with the data. Also, the RA should only be measured on things they can affect. For example, would it be the RA's fault if on of its TOPs submitted data that was technically inaccurate or incomplete?</p>
<p>This standard must be developed within the scope of the associated SAR. The SAR for this standard included the following requirement for RAs:</p> <ul style="list-style-type: none"> <li>Collect data needed for performing real time reliability analyses</li> </ul> <p>The standard was revised so the RA needs to develop and distribute a data specification, rather than individual data requests. Corresponding changes were made to other requirements, to ensure that data is provided 'as specified by the RA' rather than 'as requested by the RA'.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>No Regardless of format, either the RA receives the specified data or not.</p>
<p>The data needs to be provided in time for use, and needs to be provided in a format that the RA can use.</p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No Regardless of format, either the RA receives the data specified, or it does not. Shouldn't the RA show that the data is being used in the analysis?</p>
<p>This standard must be developed within the scope of the associated SAR. The SAR for this standard included the following requirement for RAs:</p> <ul style="list-style-type: none"> <li>Collect data needed for performing real time reliability analyses</li> </ul> <p>There are other requirements in the standard that address things such as monitoring and assessing the status of the system with respect to IROLs.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No The compliance levels do not meet the intent of the requirement. The levels of compliance should focus on the RA maintenance of a valid system model representation and the collection of real time data.</p>
<p>This standard must be developed within the scope of the associated SAR. The SAR for this standard included the following requirement for RAs:</p> <ul style="list-style-type: none"> <li>Collect data needed for performing real time reliability analyses</li> </ul>	
<p>Thomas Pruitt Duke #1</p>	<p>No These levels of compliance need additional work. For example, the RA could incur a level 1 violation if it requested only a single data item (of 1000+ items) incorrectly. Higher levels of non-compliance should indicate that an SOL has been misidentified or violated.</p>

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The standard was revised so the RA needs to develop and distribute a data specification, rather than individual data requests. Corresponding changes were made to other requirements, to ensure that data is provided 'as specified by the RA' rather than 'as requested by the RA'.

There are other requirements in the standard that address IROL identification and exceeding an IROL.

**Comments about duplicate requirements for RA and TOP**

Joanne Borrell Ray Morella Ed Stein FirstEnergy #1, 3, 6 ECAR Ops Panel #1 – 8, #5 – 1, #2 – 2	No  Requirements 203 and 204 are very similar. Requirement 203 applies to Reliability Coordinators. Requirement 204 applies to Transmission Operators. The requirements are duplicative. The standard should require accurate models to be maintained by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them maintaining accurate models if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.
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This standard must be developed within the scope of the associated SAR. The SAR for this standard included the following requirement for RAs:

- Collect data needed for performing real time reliability analyses

Many commenters felt as you do, that this requirement should be assigned either to the RA or to the TOP, but not to both. In the revised standard, this requirement is assigned only to the RA. Under the Functional Model, this is an RA responsibility.

**No – Other Comments**

Ed Riley CA ISO #2	No  The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.
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It is important that entities responsible for compliance understand the ramifications of compliance as well as the standard itself. The standard, therefore, will contain compliance requirements along with the standard itself. This principle is inherent in the development of all new standards.

Kathleen Goodman ISO NE #2	See above  <i>{ In general we agree with the requirement. However, it is up to the RA when and how the data will be collected and determined to be reliable. The primary issue we have with this requirement is the need to maintain a record of requested data and an identification of data not delivered.}</i>
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The language in the requirement was changed so the RA does not 'request' data – instead the RA produces and distributes a data specification. With this change, the RA will need to keep a record of its data specification, not its data requests. The RA will need to notify the Compliance Monitor so the Compliance Monitor can address non-compliance with entities that don't provide the needed data.

**Suggestions to improve wording**

Toni Timberman BPA #1	Yes/No  Re-word #1 to remove "Industry accepted format" and "technically inaccurate". Very often the initial data specification will include what is perceived as necessary at the time, and later additional data will be requested. I don't think a data request from the RA could ever be considered 'complete', if that means that every bit of information has been specified that ever could possibly be needed. # 2 seems ok.
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Your suggested revisions were adopted and are reflected in the revised standard.

The language in the requirement was also changed to indicate that the RA produces and distributes a data specification rather than producing individual data requests. This should allow the RA to indicate they types of data it needs, without having to specify every unique data point.

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John Blazekovich Exelon #1,3,5,6	Yes Level 2 “specification” needs to be clarified, is it referring to when, what or both?
<p>The revised standard was written more clearly. Under the revised standard, the RA has to produce a data specification that includes at least three things – a list of required data, a mutually agreeable format, and a timeframe for providing data. The word, ‘specification’ is referring to the data specification.</p>	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5	Yes See previous comment on the term “industry accepted format”. We also felt that compliance monitoring doesn’t belong in the requirement section of this document but may reside in another document pertaining to compliance.
<p>There were many commenters who did not agree with the use of the term, ‘industry accepted format’ and this term is not used in the revised standard. In the revised standard, the term, ‘mutually agreeable format’ is used.</p> <p>The SDT included the reference to the Compliance Monitor because there didn’t seem to be any other way of connecting the requirements for specifying and providing the data. If the RA doesn’t notify the Compliance Monitor that data hasn’t been provided, how will the Compliance Monitor know that data hasn’t been provided? The SDT will ask the industry for feedback on your recommendation.</p>	
Gerald Rheault Manitoba #1,3,5,6	Yes Manitoba Hydro believes that the industry accepted format should be more clearly defined in some Standard to ensure minimum acceptable level of quality.
<p>There were many commenters who did not agree with the use of the term, ‘industry accepted format’ and this term is not used in the revised standard. In the revised standard, the term, ‘mutually agreeable format’ is used.</p>	
David Kiguel Hydro One #1	Yes See previous comment on the term “industry accepted format”. <i>{ . . .”Industry Accepted Format” must not be overly perscritive and must not preclude mutually agreed upon data exchange methods between adjoining areas. Also how is it proposed to handle “proprietary data”?}</i> We also felt that compliance monitoring doesn’t belong in the requirement section of this document but may reside in another document pertaining to compliance.
<p>There were many commenters who did not agree with the use of the term, ‘industry accepted format’ and this term is not used in the revised standard. In the revised standard, the term, ‘mutually agreeable format’ is used.</p> <p>The SDT included the reference to the Compliance Monitor because there didn’t seem to be any other way of connecting the requirements for specifying and providing the data. If the RA doesn’t notify the Compliance Monitor that data hasn’t been provided, how will the Compliance Monitor know that data hasn’t been provided? The SDT will ask the industry for feedback on your recommendation.</p>	
<b>Yes – Other Comments</b>	
Alan Boesch NPPD #1	Yes There is no compliance measure to track the RA’s reporting data that was requested but not received.
<p>Agreed. The SDT felt that if the RA didn’t feel the missing data was important enough to notify the Compliance Monitor, then no sanction should be applied.</p>	
Albert M. DiCaprio MAAC #2	The requirements for computing limits comes from the SAR on Facility Ratings et al. This Standard focuses on response and on Model maintenance (in real-time environment)
<p>Agreed.</p>	
Darrel Richardson Illinois Power #1, 3	Yes However, this only addresses non-compliance on the part of the RA. There

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	<p>should be a similar non-compliance penalty that would apply to those to whom the request is made. Requirements 6, 7, 8 and 9 do not parallel entities responsibility to provide information on a day-to-day basis.</p>
<p>There are corresponding requirements in this standard that require entities to supply the data as specified by the RA.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>Yes Is there a standard or requirement for the TOP, BA, or IA to provide this data to the RA so that the RA is not captive. There needs to be some compliance requirement on those entities to provide the data (Maybe a criteria requirement in the certification SARs).</p>
<p>There are corresponding requirements in this standard that require entities to supply the data as specified by the RA.</p>	
<p>Alan Johnson Mirant #6 Bob Burkard NCMPA1 # 3,4,5 Charles Yeung Reliant Energy #6 Dilip Mahendra SMUD #1 Doug Hils Cinergy #1 Fred Frederick Vectren #3 George Bartlett Entergy Svcs 1 James Stanton Calpine #5 Joe Minkstein PG&amp;E #5 Karl Kohlrus CWL&amp;P #5 Kim Warren IMO #2 Mike Miller Southern Co #1 Raj Rana AEP #1,3,5,6 Richard Kafka Pepco #1 Richard Schwarz PNSC #2 Stuart Goza TVA #1 Tony Jankowski We-Energies #4 Vern Colbert Dominion #1 William Smith Allegheny Pwr #1</p>	<p>Yes</p>

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**16. Requirement 4 – Do you agree with this requirement and its associated performance/outcome and measure/s?**

**Requirement 4:**

The Transmission Operator (TOP) shall specify and collect the data it needs (from its associated Balancing Authorities (BAs), Interchange Authorities (IAs), Generators, Reliability Authority (RA) and other associated TOPs] to maintain the models needed to support real time monitoring and reliability analyses.<sup>1</sup>

The TOP shall specify when to supply data (based on the TOP’s hardware and software requirements, and the time needed to do the operational planning analysis.)

The TOP shall notify the Compliance Monitor if an RA, BA, IA, Generator or TOP does not provide data as requested.

**Measures:**

1. Documented specification for data needed to implement changes to existing system models (Specification shall include industry-accepted format, timeframe, and notation that data be technically accurate and complete.)
2. Documented specification for data needed to implement changes for real time monitoring (Specification shall include industry accepted format, timeframe, and notation that data be technically accurate and complete.)
3. Record of correspondence requesting new data needed (for monitoring and reliability analyses) with identification of data not received.

**Outcome(s) (100% Compliance):**

The TOP shall specify and collect the data it needs [from its associated Balancing Authorities (BAs, Interchange Authorities (IAs), Generators, TOPs and Reliability Authorities (RAs)] to maintain the models needed to support real time monitoring and reliability analyses. The TOP shall maintain a record that shows data requested but not received.

**Revised Requirement: None**

**Summary Consideration:**

Several commenters indicated that this requirement should be removed or adjusted. Under the Functional Model, the RA has the principal responsibility for monitoring reliability-related data within its Reliability Authority Area. The IROLs addressed in this standard fall into this category of reliability-related data. Several commenters indicated a need for a requirement for TOPs to analyze the subset of the transmission system under their control to see instances where IROLs may be approached or exceeded. The system operating limits monitored by the TOP are not IROLs and are outside the scope of this standard. Because so many commenters indicated a desire for a requirement for the TOP, the SDT has advised that the Director-Standards that there may be a need for an additional standard to address the TOP’s requirement to analyze its portion of the transmission system.

**No – Comments indicating requirement is inappropriate for TOP**

<p>Ken Skroback AL Elec Coop #4</p>	<p>No These assumptions work in the new NERC model but don’t apply to a small utility (G &amp; T) that is not separated and serves as its own control area. Since non separated utilities are prevented from receiving data from RA’s, some of these studies are conducted by the RA using data provided by us to them. We currently don’t receive data from other entities, although we provide data to them, and yet our study needs are being met. Since we have no current need for this data, we have no specifications and we have no record of correspondence. According to these measures we would be level 2 non-compliant, yet our study needs are met.</p>
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	I would like a statement in all three measures that states “as required” or “if needed”.
This requirement was dropped from this standard.	
Alan Johnson Mirant #6	No Consistent with the Functional Model, shouldn't the TOP request and receive the necessary data from the RA. It seems as if data requests are flowing in too many directions, which can result in models operating off of different data sets. Also, note that this “industry accepted format” must be somehow defined by the industry (via either NERC or NAESB as appropriate), and not vary from RA to RA.
The Functional Model doesn't specifically identify how the TOP should acquire the data it needs. Because this standard addresses monitoring and comparing the transmission system to the subset of system operating limits (IROLs) that are under the authority of the RA, this requirement was dropped from this standard. Since the TOP doesn't monitor IROLs, the TOP doesn't need to collect the data needed to compare system parameters to the IROLs.	
Peter Burke ATC #1	No My understanding of the future relationship between RA and TOP may be incorrect (I think of the MISO as the RA and ATC as the TOP). However, I think that a TOP should not and will not span multiple RAs. In addition, the RA is given the ultimate responsibility for maintaining system security. Because of these reasons, the TOP should not be getting data from BA, IA, Generator or other TOPs. Rather, the TOP should be getting the data from the RA. So, the requirement should instead enforce that the TOP maintains an accounting of the data it receives from the RA. The majority of the data required by the TOP will be supplied by project/construction/system protection personnel from within the TOP organization unless the TOP is responsible for operation of other transmission systems. (ATC operating ALTW for example) Will they be required to document internal correspondence required to get the data needed for monitoring? The reason for disagreeing with the requirement is that there's no incentive for the people who know about the changes to inform the TOP unless they work for the same company. If a neighboring utility adds equipment that impacts a different TOP, how does the TOP know this is happening and how does the TOP incent the other company to let the TOP know ahead of time? The opening statement refers to “associated TOPs” but nowhere defines the difference between an associated TOP and any other TOP. This requirement should apply to Distribution Providers (DPs) in the same way it applies to BAs, Ias, Generators, RAs, and “associated TOPs.”
Because this standard addresses monitoring and comparing the transmission system to the subset of system operating limits (IROLs) that are under the authority of the RA, this requirement was dropped from this standard. Since the TOP doesn't monitor IROLs, the TOP doesn't need to collect the data needed to compare system parameters to the IROLs.	
Albert M. DiCaprio MAAC #2	No See response to #9 <i>{ In the framework of the Functional Model, the TOP in its role as TOP does not have the responsibility for doing system analysis. To the extent that the TOP does local analysis that information must come from the RA (unless the TOP has its own agreements to access that data.)</i>
Agreed. This requirement was dropped from this standard. Because this standard addresses monitoring and comparing the transmission system to the subset of system operating limits (IROLs) that are under the authority of the RA, this requirement was dropped from this standard. Since the TOP doesn't monitor IROLs, the TOP doesn't need to collect the data needed to compare system parameters to the IROLs.	

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<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>No In requirement 3, the RA has already determined what data it needs for reliability analyses and system monitoring. It appears to be redundant to have the TOP do the same thing. Would it be more appropriate for the TOP to have a requirement to provide the requested data to the RA and then be measured in how they perform that?</p>
<p>Because this standard addresses monitoring and comparing the transmission system to the subset of system operating limits (IROLs) that are under the authority of the RA, this requirement was dropped from this standard. Since the TOP doesn't monitor IROLs, the TOP doesn't need to collect the data needed to compare system parameters to the IROLs. This requirement was dropped from this standard. There is another requirement in the revised standard that requires the TOP to provide the specified data to its RA.</p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No Suggest measuring the TOP non-compliance at gathering and providing the data to the RA, rather than a redundant requirement for the TOP to collect the data.</p>
<p>This requirement was dropped from this standard. There is another requirement in the revised standard that requires the TOP to provide the specified data to its RA.</p>	
<p>Sam Jones ERCOT #2  OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>No Same comments as for #14 above, but with focus on TOP. Also, the TOP does not need to collect any information from the IA. The IA has next-hour bilateral and market interchange information, but it's not of any use to the TOP. <i>{The Requirement should be refocused to state that the RA needs to maintain accurate models and run studies to determine limits rather than directing the RA to collect the data it needs. There should be Requirement for the Transmission Owner, Generation Owner, LSE, and TOP to provide the RA with the data it needs for its studies.}</i> Under Requirements 6 and 7, minimum times are specified for provision of "monitoring" data provision. However, no similar minimum time line is stated for this Requirement. For consistency, a minimum time should also be stated. This time specification should provide sufficient time for the RA, etc., to perform database modelling and development/confirmation of limits.</p>
<p>This requirement was dropped from this standard.</p>	
<p>Richard Kafka Pepco #1</p>	<p>No RA builds and maintains models</p>
<p>Agreed. Because this standard addresses monitoring and comparing the transmission system to the subset of system operating limits (IROLs) that are under the authority of the RA, this requirement for TOPs was dropped from this standard. Since the TOP doesn't monitor IROLs, the TOP doesn't need to collect the data needed to compare system parameters to the IROLs .</p>	
<p>Vern Colbert Dominion #1</p>	<p>No TOP is not required to gather and provide data to the RA.</p>
<p>The Functional Model does require that the TOP provide facility data to the RA.</p>	
<p>No – Comments indicating requirement needs more details</p>	
<p>Tony Jankowski We-Energies #4</p>	<p>No This Requirement should define all data required, not just changes.</p>

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<p>This requirement was dropped from this standard – however your comment was applied to the changes made to the same requirement for the RA. The revised RA requirement addresses data to support real time monitoring, operational planning analyses and real time assessments of the RAs reliability area.</p>	
<p>Alan Boesch NPPD #1</p>	<p>Yes/No The standard should state what type of information may be required by the TOP. A list similar to that in NERC Operating Policy 4 should be included and the TOP could identify what data from this list is required. In addition the TOP must make the request with sufficient time for the BA, IA, other TOP or RA to implement the data request.</p>
<p>Because this standard addresses monitoring and comparing the transmission system to the subset of system operating limits (IROLs) that are under the authority of the RA, this requirement was dropped from this standard. Since the TOP doesn't monitor IROLs, the TOP doesn't need to collect the data needed to compare system parameters to the IROLs.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No Comments: Unlike our position on Requirement #3, we support the vagueness of this requirement for the TOP. However, it needs to be reworded such as not to place a burden on the data providers. The data required by the TOP from the Generators will be specified in interconnection agreements between the TOP and Generator. These agreements are individually negotiated by each party, hence the Generator has the ability to minimize the burden of the data request and verify the need for the data via negotiations. Hence the support for keeping this requirement vague so as not to dictate the content of interconnection agreements. There may be an opportunity for an industry standard for the type of data to be provided by the BA and RA to the TOP, similar to Appendix 4B. This would help ensure that a TOP is only receiving data it really needs.  Additionally, without an industry minimum standard similar in concept to Appendix 4B, how do we resolve the issue where a TOP desires individual unit dispatch information but the Generator and BA only desire to provide zonal dispatch data?  Also, the requirement of the TOP to “collect the data it needs” is too vague. Also, the requirement of the TOP specifying when to supply data is too vague. The data supplied should be data that is mutually agreed upon between the TOP and respective party along with the timing of the request. The respective party should not have to obtain the same hardware and software as TOP.</p>
<p>Because this standard addresses monitoring and comparing the transmission system to the subset of system operating limits (IROLs) that are under the authority of the RA, this requirement was dropped from this standard. Since the TOP doesn't monitor IROLs, the TOP doesn't need to collect the data needed to compare system parameters to the IROLs.</p>	
<p>Joseph Buch Madison #4</p>	<p>No See comments on question 14. <i>{ The “data” that is to be requested is not defined. As part of this standard one should be able to initially define a handful of key data elements that are required. These key elements would include the minimum information required to support reliability analyses. See question 47 for additional comments. }</i></p>
<p>Because this standard addresses monitoring and comparing the transmission system to the subset of system operating limits (IROLs) that are under the authority of the RA, this requirement was dropped from this standard. Since the TOP doesn't monitor IROLs, the TOP doesn't need to collect the data needed to compare system parameters to the IROLs.  This standard does not identify what data must be provided – since this may vary from RA to RA.</p>	
<p>James Stanton Calpine #5</p>	<p>No The TOP should collect generator data from the RA.</p>
<p>Agreed – however, the standard was revised and this requirement was eliminated.</p>	

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<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>I recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state ‘----- timeframe, and notation that data be technically accurate and complete’. I would rewrite these measures to state ‘-----timeframe, and notation that data be accurate and complete’.</p> <p>What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?</p>
<p>This requirement was dropped from this standard. Your recommended changes were applied to the revisions made to the same requirement for the RA. The phrase, ‘technically accurate’ was revised to say, ‘accurate’.</p>	
<p>Compliance Managers</p>	<p><u>Proposal</u></p> <p>The TOP is required to provide the RC the data and equipment status that relates to specific, current, System Operating Limits, at a pre-determined frequency of update, and accuracy of data. Therefore there should be a measure for this requirement, with sanctions indicated for non-compliance.</p>
<p>The standard was revised to add a requirement that the TOP provide data to its RA.</p>	
<p><b>Yes – Comments with suggestions for word changes</b></p>	
<p>Joanne Borrell Ed Stein Ray Morella FirstEnergy #1, 3,6</p>	<p>Yes</p> <p>We recommend making one change to Measures 1 and 2. Currently Measures 1 and 2 state ‘----- timeframe, and notation that data be technically accurate and complete’. I would rewrite these measures to state ‘-----timeframe, and notation that data be accurate and complete’.</p>
<p>This requirement was dropped from this standard. Your recommended changes were applied to the revisions made to the same requirement for the RA. The phrase, ‘technically accurate’ was revised to say, ‘accurate’.</p>	
<p>Toni Timberman BPA #1</p>	<p>Yes</p> <p>In the text of the Requirement, the term “Generators” is not definitive enough to describe who is responsible for providing the “data”. A Generator Operator may not have access to the dynamic model, and the Generator Owner may not have access to the real-time data.</p> <p>TOW needs to be added to the text of the requirement as one of the entities responsible for providing data to the TOP.</p> <p>The words “Industry Accepted Format” and “technically accurate” should be deleted from the Measures, since an Industry Accepted Format does not exist, and at times Technically Accurate information is not available. There may not be generator test data available, so default data is used in the studies. Maybe “best available data” would be more realistic. Actually, I suggest that the text for measures 1 &amp; 2 be modified to end at ‘timeframe’, and the rest of the sentence be deleted.</p>
<p>This requirement was dropped from this standard. Your recommended changes were applied to the revisions made to the same requirement for the RA. The phrase, ‘industry accepted format’ was revised to ‘mutually acceptable format’ and the phrase, ‘technically accurate’ was revised to say, ‘accurate’. TOW was added to the list of functions required to provide data to the RA.</p>	
<p><b>Yes – Other comments</b></p>	
<p>Mike Miller Southern Co #1</p>	<p>Yes</p> <p>coordination should be required so that TOP or RA doesn’t fall out of step</p>

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<p>This requirement has been dropped from this standard. The revised standard includes a requirement that the TOP provide data to its RA, but there are no requirements for the RA to provide data to its TOPs. This standard addresses data needed to monitor the portion of the system that is under the control of the RA, so collection of data needed by the TOP to monitor local network integrity is beyond the scope of this standard.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>Yes Data coordination between the RA &amp; TOP should be required also.</p>
<p>This requirement has been dropped from this standard. The revised standard includes a requirement that the TOP provide data to its RA, but there are no requirements for the RA to provide data to its TOPs. This standard addresses data needed to monitor the portion of the system that is under the control of the RA, so collection of data needed by the TOP to monitor local network integrity is beyond the scope of this standard.</p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>Yes Assuming data confidentiality will be addressed in future documents.</p>
<p>This requirement has been dropped from this standard. The certification requirements for the RA will require signing a confidentiality agreement.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>Yes Same comments as 14 and 15 <i>{ In general we agree with the requirement. However, it is up to the RA when and how the data will be collected and determined to be reliable. The primary issue we have with this requirement is the need to maintain a record of requested data and an identification of data not delivered.}</i></p>
<p>This requirement was dropped from this standard. The language in the same requirement for the RA was changed so the RA does not 'request' data – instead the RA produces and distributes a data specification. With this change, the RA will need to keep a record of its data specification, not its data requests. The RA will need to notify the Compliance Monitor so the Compliance Monitor can address non-compliance with entities that don't provide the needed data.</p>	
<p><b>Yes – suggestions to change wording of requirements</b></p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>Yes There needs to be agreement among the various functions on the exact acceptable format and timing for data transfer to avoid unnecessary duplication of work. The generator function should provide data to the RA through the TOP, instead of to both the RA and the TOP, to avoid unintended inconsistency. Please add "the format and timing for data transfer should be coordinated and agreed to by the impacted parties".</p>
<p>This requirement was dropped from this standard. The concept of having a collaborative process for identifying what information is required or for identifying the time frame for providing data was not supported in making revisions to the same requirement for the RA. The concept of having a mutually agreed upon format was adopted in is reflected in the revised requirements. Under the Functional Model the RA has ultimate responsibility for reliability – placing restrictions on the RAs ability to obtain data it needs to monitor and assess the system does not seem reasonable.  Under the Functional Model the RA collects facility data from the Generator; Load-Serving Entity; Transmission Owner and Operator; Distribution Provider functions.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>Yes/No The reference to notification of Compliance Monitor should not be specific to the standard and should be centralized in a compliance document. There also needs to be a clear distinction between data for modeling reliability analysis and for real time monitoring.</p>

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<p>The SDT included the reference to the Compliance Monitor because there didn't seem to be any other way of connecting the requirements for specifying and providing the data. If the RA doesn't notify the Compliance Monitor that data hasn't been provided, how will the Compliance Monitor know that data hasn't been provided? The SDT will ask the industry for feedback on your suggestion.</p> <p>The revised requirement indicates the RA must specify what data it needs – the data can be to support real time monitoring, operational planning analyses and real time assessments of its reliability area.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>Yes</p> <p>same comment as in #14 but for TOP.</p> <p><i>{ Manitoba Hydro agrees with the requirement to provide data to the RA. The accuracy of this data is not referenced here. Generally data should be accurate. There are all sorts of reasons why it may not be accurate and a process should be in place to keep improving the data and having a means to identify bad or questionable data. }</i></p>
<p>Having a process to identify bad data is outside the scope of this standard.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>Yes</p> <p>However, we suggest the requirement be more general stating “..data it needs from all entities using the transmission system to maintain the ..”, deleting the list of some but not all functions.</p>
<p>This requirement was dropped from this standard – however your comments were applied, in concept, to the revisions made to the same requirement for the RA.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>Yes</p> <p>A qualified YES: The determination of required information should not be done unilaterally by the TOP as this language implies. It should be determined through a collaborative process, and should protect market sensitive information to the greatest extent possible while still maintaining a reliable system.</p>
<p>This requirement was dropped from this standard. The concept of having a collaborative process for identifying what information is required was not supported in making revisions to the same requirement for the RA. Under the Functional Model the RA has ultimate responsibility for reliability – placing restrictions on the RAs ability to obtain data it needs to monitor and assess the system does not seem reasonable.</p>	
<p><b>Yes – Add form for data submission</b></p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5</p>	<p>Yes</p> <p>A form needs to be developed to allow the different authorities to submit this data.</p>
<p>This requirement was dropped from this standard. The concept of developing a standard form for data submission was not applied to the same requirement for the RA because each RA may collect data using whatever means practical for that RA. Some RAs collect data electronically – requiring the use of a new form would add complexity that wouldn't necessarily improve reliability.</p>	
<p>David Kiguel Hydro One #1</p>	<p>Yes</p> <p>A form needs to be developed to allow the different authorities to submit this data. Please see our comments under item # 44 (Regional and Interconnection Differences).</p> <p><i>{ In general we agree with the requirement. However, it is up to the RA when and how the data will be collected and determined to be reliable. The primary issue we have with this requirement is the need to maintain a record of requested data and an identification of data not delivered. }</i></p> <p><i>{ There are differences in some Areas. For example, in Ontario the IMO is solely responsible to determine operating limits and to direct the operation of the IMO-Controlled Grid within these limits. The Transmission owners/operators operate</i></p>

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	<p><i>their respective systems under the IMO's direction. They only provide the IMO with equipment ratings which the IMO must respect. The transmission operators do not determine operating limits or monitor/report their compliance.}</i></p>
<p>This requirement was dropped from this standard. The concept of developing a standard form for data submission was not applied to the same requirement for the RA because each RA may collect data using whatever means practical for that RA. Some RAs collect data electronically – requiring the use of a new form would add complexity that wouldn't necessarily improve reliability.</p> <p>This requirement was dropped from this standard. The language in the same requirement for the RA was changed so the RA does not 'request' data – instead the RA produces and distributes a data specification. With this change, the RA will need to keep a record of its data specification, not its data requests. The RA will need to notify the Compliance Monitor so the Compliance Monitor can address non-compliance with entities that don't provide the needed data.</p> <p>The revised standard conforms with the description you have provided for the IMO's operations.</p>	
<p>Bob Burkard NCMPA1 # 3,4,5          Charles Yeung Reliant Energy #6          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          Doug Hils Cinergy #1          Ed Riley CA ISO #2          Fred Frederick Vectren #3          Joe Minkstein PG&amp;E #5          Karl Kohlrus CWL&amp;P #5          Kim Warren IMO #2          Lee Westbrook Oncor #1          Lee Xanthakos SCE&amp;G #1          Lloyd Linke MAPP #2          Roman Carter So Co Gen 3,5,6 (6 members)          Stuart Goza TVA #1          Thomas Pruitt Duke #1          William Smith Allegheny Pwr #1</p>	<p>Yes</p>

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**17. Requirement 4 – Do you agree with these levels of non-compliance for this requirement?**

<p><b>Original Levels of Non-compliance:</b></p> <ol style="list-style-type: none"> <li>1. Data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete )</li> <li>2. Data was not requested <b>OR</b> there was no record of specification</li> <li>3. Not Applicable</li> <li>4. Not Applicable</li> </ol>
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<p><b>Revised Levels of Non-compliance: None</b></p>
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**Summary Consideration:**

Several commenters indicated that this requirement should be removed or adjusted. Under the Functional Model, the RA has the principal responsibility for collecting facility data within its Reliability Authority Area. The portion of the system monitored and analyzed by the TOP are outside the scope of this standard. Because so many commenters indicated a desire for a requirement for the TOP, the SDT has advised that the Director-Standards that there may be a need for an additional standard to address the TOP’s requirement to collect data.

This requirement and its associated levels of non-compliance were dropped from this standard. Many of the comments provided were applicable to the same requirement for the RA and were applied to the revisions made to the RA’s requirement to collect data.

<p><b>No – Comments indicating non-compliance doesn’t address intent of requirement</b></p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No The compliance levels do not meet the intent of the requirement. The levels of compliance should focus on the TOP’s maintenance of a valid model representation and the collection of real time data.</p>
<p>This requirement was dropped from this standard. Your comments could not be applied to the revised requirement for the RA because your suggestion would expand the scope of the standard, beyond what was identified in the SAR. The requirement for the RA data collection was developed based on the following language from the SAR:</p> <ul style="list-style-type: none"> <li>• Collect data needed for performing real time reliability analyses</li> </ul> <p>The SAR did not address model maintenance.</p>	
<p>Albert M. DiCaprio MAAC #2</p>	<p>No This Matrix is for data handling not for operations.</p>
<p>This requirement was dropped from the standard.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>No Based on our comment to question 16, we would recommend that compliance for the TOP be built around providing the requested data to the RA.</p>
<p>The standard was revised and there is a new requirement that the TOP provide data, as specified, to its RA.</p>	
<p>Sam Jones ERCOT #2</p>	<p>Please see comment for Q 15. {The Requirement should be refocused to state that the RA needs to maintain</p>

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<p>OLDTF (9?) 6 - #2 1 - #1,5</p>	<p><i>accurate models and run studies to determine limits rather than directing the RA to collect the data it needs. There should be Requirement for the Transmission Owner, Generation Owner, LSE, and TOP to provide the RA with the data it needs for its studies.</i></p> <p><i>{The RA typically has no control of whether the data is provided, but may have prudent and acceptable measures in place which require the data.}</i></p>
<p>This standard must be developed within the scope of the associated SAR. The SAR for this standard included the following requirement for RAs:</p> <ul style="list-style-type: none"> <li>Collect data needed for performing real time reliability analyses</li> </ul> <p>The standard was revised so the RA needs to develop and distribute a data specification, rather than individual data requests. Corresponding changes were made to other requirements, to ensure that data is provided 'as specified by the RA' rather than 'as requested by the RA'.</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>No</p> <p>Non-compliance Level 1 states "data specification(s) was not complete (missing either industry accepted format, timeframe or some data technically inaccurate or incomplete)". It is not clear why the TOP should be held in non-compliance for "technically inaccurate or incomplete" data submitted by other functions. We suggest deleting "or some data technically inaccurate or incomplete".</p>
<p>This requirement was dropped from this standard. Your comments were applied to the same requirement for the RA as follows:</p> <p>The RA produces the data specification – if the data specification is incomplete, then the RA should be sanctioned. The original levels of non-compliance did not state this clearly enough.</p> <p>The non-compliance has been revised and include the following language:</p> <ul style="list-style-type: none"> <li>Data specification(s) was not complete (list of required data, a mutually agreeable format, and timeframe for providing data)</li> </ul>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>This requirement penalizes the TOP for not asking for data that it may not know it needs. For example, if a neighboring TOP energizes a new station, how is the TOP supposed to know that the station exists? If the affected TOP doesn't know, it can't request data and can't tell that it's missing. The RAs should be receiving this information and should be required to disseminate to parties as needed.</p> <p>If this requirement is maintained as is, then the same comment made in response to question #15 applies. That is, the TOP should be non-compliant for not notifying suppliers of data that the information must be technically accurate and complete. The TOP has no control over whether or not the data supplied is accurate and complete and, therefore, level 1 compliance should be altered.</p>
<p>This requirement was dropped from this standard. Your comments were applied to the same requirement for the RA as follows:</p> <p>The RA produces the data specification – if the data specification is incomplete, then the RA should be sanctioned. The original levels of non-compliance did not state this clearly enough.</p> <p>Several commenters noted, as you did, that the RA may not know about system changes that result in the need for data. The requirement was revised so the RA needs to develop and distribute a data specification, rather than individual data requests.</p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>No</p> <p>There is not compliance level measuring what the TOP actually does with the data. Also, the TOPs should only be measured on things they can affect. For example, would it be the TOP's fault if on of its BAs submitted data that was technically inaccurate or incomplete?</p>

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<p>This requirement was dropped from this standard. Your comments were applied to the same requirement for the RA as follows:</p> <p>This standard must be developed within the scope of the associated SAR. The SAR for this standard included the following requirement for RAs:</p> <ul style="list-style-type: none"> <li>Collect data needed for performing real time reliability analyses</li> </ul> <p>The standard was revised so the RA needs to develop and distribute a data specification, rather than individual data requests. Corresponding changes were made to other requirements, to ensure that data is provided 'as specified by the RA' rather than 'as requested by the RA'.</p>	
<p><b>No – Comments about inappropriate levels of non-compliance</b></p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>No Regardless of format, the TOP receives the specified data or not</p>
<p>This requirement was dropped from this standard. Your comments were applied to the same requirement for the RA as follows:</p> <p>The data needs to be provided in time for use, and needs to be provided in a format that the RA can use.</p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No 1) Either the TOP provided the data, or it did not provide the data to the RA. 2) Compliance monitoring does not belong in the requirement section of this document. It may belong in another document pertaining to compliance.</p>
<p>This requirement was dropped from this standard. Your comments were applied to the same requirement for the RA as follows:</p> <p>The SDT will ask the industry for feedback on whether to include the reference to the compliance monitor in the standard.</p> <p>The data needs to be provided in time for use, and needs to be provided in a format that the RA can use.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>No Level #1 and #2 non-compliance should be level #3 and level #4 non-compliance. Level #1 and level #2 should be changed to "Not Applicable".</p>
<p>This requirement was dropped from this standard. The financial penalties associated with non-compliance can be quite severe. Not having a data specification is not likely to have as severe an impact on the reliability of the interconnected bulk electric system as exceeding an IROL for a time period greater than T<sub>v</sub>.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>No There seems to be some middle ground between yes and no which should fill in levels 3 and 4 as above.</p>
<p>This requirement was dropped from this standard.</p>	
<p><b>No – Other comments</b></p>	
<p>Ed Stein Ray Morella Joanne Borrell FirstEnergy #1, 3, 6 ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No Requirements 203 and 204 are very similar. Requirement 203 applies to Reliability Coordinators. Requirement 204 applies to Transmission Operators. The requirements are duplicative. The standard should require accurate models to be maintained by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them maintaining accurate models if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.</p>
<p>This requirement was dropped from this standard.</p>	

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<p>Ken Skroback AL Elec Coop #4</p>	<p>No See #16 above. <i>{ These assumptions work in the new NERC model but don't apply to a small utility (G &amp; T) that is not separated and serves as its own control area. Since non separated utilities are prevented from receiving data from RA's, some of these studies are conducted by the RA using data provided by us to them. We currently don't receive data from other entities, although we provide data to them, and yet our study needs are being met. Since we have no current need for this data, we have no specifications and we have no record of correspondence. According to these measures we would be level 2 non-compliant, yet our study needs are met. I would like a statement in all three measures that states "as required" or "if needed". }</i></p>
<p><a href="#">This requirement was dropped from this standard.</a></p>	
<p>Alan Johnson Mirant #6</p>	<p>No No, only because I don't concur with requirement 16.</p>
<p><a href="#">This requirement was dropped from this standard.</a></p>	
<p>Joseph Buch Madison #4</p>	<p>No See comments on question 15. <i>{The "data" that is to be requested is not defined. As part of this standard one should be able to initially define a handful of key data elements that are required. These key elements would include the minimum information required to support reliability analyses. See question 47 for additional comments.}</i></p>
<p><a href="#">This requirement was dropped from this standard.</a> <a href="#">This standard does not include any requirements that identify what data must be provided – since this may vary from RA to RA.</a></p>	
<p>Ed Riley CA ISO #2</p>	<p>No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.</p>
<p><a href="#">It is important that entities responsible for compliance understand the ramifications of compliance as well as the standard itself. The standard, therefore, will contain compliance requirements along with the standard itself. This principle is inherent in the development of all new standards.</a></p>	
<p>Vern Colbert Dominion #1 Thomas Pruitt Duke #1 Richard Kafka Pepco #1</p>	<p>No</p>

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<b>Yes – Comments suggesting better clarity needed</b>	
Toni Timberman BPA #1	Yes/No Re-word #1 to remove “Industry accepted format” and “technically inaccurate”. Very often the initial data specification will include what is perceived as necessary at the time, and later additional data will be requested. I don’t think a data request from the RA could ever be considered ‘complete’, if that means that every bit of information has been specified that ever could possibly be needed. # 2 seems ok.
This requirement was dropped from this standard. Your comments were applied to revisions made to the same requirement for the RA.	
Gerald Rheault Manitoba #1,3,5,6	Yes Same comment as in #15. <i>{ Manitoba Hydro believes that the industry accepted format should be more clearly defined in some Standard to ensure minimum acceptable level of quality.}</i>
There were many commenters who did not agree with the use of the term, ‘industry accepted format’ and this term is not used in the revised standard. In the revised standard, the term, ‘mutually agreeable format’ is used.	
<b>Yes – Comments about appropriateness of levels of non-compliance</b>	
John Blazekovich Exelon #1,3,5,6	Yes Level 1 non compliance appears to be saying that anytime errors are found and corrected the entity correcting the errors must be found non-compliant for the period before the error was found. Is that the objective of this requirement?
This requirement was dropped from this standard. The revised standard was written more clearly. Under the revised standard, the RA has to produce a data specification that includes at least three things – a list of required data, a mutually agreeable format, and a timeframe for providing data. The word, ‘specification’ is referring to the data specification.	
Alan Boesch NPPD #1	Yes There is no compliance measure to track the TOP’s reporting data that was requested but not received.
Agreed. The SDT felt that if the RA didn’t feel the missing data was important enough to notify the Compliance Monitor, then no sanction should be applied.	
<b>Yes – Other comments</b>	
Roman Carter So Co Gen 3,5,6 (6 members)	Yes However, my comments to question #15 applies here also. <i>{ Is there a standard or requirement for the TOP, BA, or IA to provide this data to the RA so that the RA is not captive. There needs to be some compliance requirement on those entities to provide the data (Maybe a criteria requirement in the certification SARs).}</i>
This requirement was dropped from this standard. There are corresponding requirements that address provision of data, as specified by the RA.	
Kathleen Goodman ISO NE #2	Yes Same comments as 14 and 15 <i>{In general we agree with the requirement. However, it is up to the RA when and how the data will be collected and determined to be reliable. The primary issue we have with this requirement is the need to maintain a record of requested data and an identification of data not delivered.}</i>

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<p>This requirement was dropped from this standard.</p> <p>The language in the same requirement for the RA was changed so the RA does not 'request' data – instead the RA produces and distributes a data specification. With this change, the RA will need to keep a record of its data specification, not its data requests. The RA will need to notify the Compliance Monitor so the Compliance Monitor can address non-compliance with entities that don't provide the needed data.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>Yes</p> <p>See previous comment on the term “industry accepted format”. We also felt that compliance monitoring doesn't belong in the requirement section of this document but may reside in another document pertaining to compliance.</p> <p>{ . . . Industry Accepted Format” must not be overly perscrutive and must not preclude mutually agreed upon data exchange methods between adjoining areas. Also how is it proposed to handle “proprietary data”?}</p>
<p>This requirement was dropped from this standard. Your comments were applied to the revisions of the same requirement for the RA. The term, 'industry accepted format' was replaced with 'mutually agreeable format'.</p> <p>The SDT will ask the industry for feedback on whether to include the reference to the compliance monitor in the standard.</p> <p>There is a certification requirement for RAs that addresses confidentiality agreements.</p>	
<p>Darrel Richardson Illinois Power #1, 3</p>	<p>Yes</p> <p>However, this only addresses non-compliance on the part of the TOP. There should be a similar non-compliance penalty that would apply to those to whom the request is made. Requirements 6, 7, 8 and 9 do not parallel entities responsibility to provide information on a day-to-day basis.</p>
<p>This requirement was dropped from this standard. There are requirements in the standard that address provision of data and include sanctions if data is not provided as specified by the RA.</p>	
<p>Bob Burkard NCMPA1 # 3,4,5 Charles Yeung Reliant Energy #6 Dilip Mahendra SMUD #1 Doug Hils Cinergy #1 Fred Frederick Vectren #3 George Bartlett Entergy Svcs 1 Joe Minkstein PG&amp;E #5 Karl Kohlrus CWL&amp;P #5 Kim Warren IMO #2 Mike Miller Southern Co #1 Raj Rana AEP #1,3,5,6 Stuart Goza TVA #1 Tony Jankowski We-Energies #4 William Smith Allegheny Pwr #1</p>	<p>Yes</p>

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### 18. Requirement 5 – Do you agree with this requirement and its associated performance/outcome and measure/s?

#### Original Requirement

The Reliability Authority (RA) shall provide data, as specified, by an (associated) RA and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

#### Measure(s)

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to requesting RA or TOP, no less than 7 days prior to the energization of new facilities/changes to existing facilities.

#### Outcome(s)

The RA shall provide data as requested, to its (associated) RA and/or TOP.

#### Revised Requirement

Each entity performing one of the following functions shall provide data, as specified, to the reliability authority(ies) with which it has a reliability relationship.

- Generator operator
- Generator owner
- Reliability authority
- Transmission operator
- Transmission owner

#### Measure(s)

The entity responsible shall provide data, as specified, to the requesting reliability authority, within the time frame specified, in the mutually agreed upon format.

#### Summary Consideration:

Based on the comments submitted, this requirement has been revised to eliminate the requirement that data be provided to the TOP. Clarifying language was added to indicate which RA should be provided the data. The '7 days prior to energization' phrase has been replaced with language that indicates data must be provided as specified by the RA and within the timeframe specified.

The corresponding requirement for the RA was modified to indicate that the RA must specify what data it needs and must distribute the specification to entities with facilities monitored by the RA and to entities that provide facility status to the RA.

The term, 'technically accurate' was modified to say, 'accurate.'

The Outcomes section was redundant and was eliminated.

The term, 'industry accepted format' was replaced with 'mutually agreed upon format' based on the industry's comments.

This requirement was combined with the similar requirements that indicated the RA, TOP, Generator Operator and Generator Owner must provide data. The revised requirement is called, 'Data Provision'.

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No – Comments regarding 7 days	
George Bartlett Energy Svcs 1	No The RA should provide data when requested, not 7 days prior to energization. Please delete the phrase “no less than 7 days prior to the energization of new facilities or changes to existing facilities” from both the Requirements and the Measures.
The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.	
Doug Hils Cinergy #1	No Model updates are extremely necessary, however there may be times that temporary changes are made to get some equipment back in service by reconfiguring the system. Would there be a violation if that equipment was placed back in service before the 7 day notification took place?
The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.	
Bob Burkard NCMPA1 # 3,4,5	No Emergency changes to existing facilities should be exempted with a requirement to coordinate with the above entities.
The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA. The RA may choose to address emergency changes in its data specification, but requiring such a provision is beyond the scope of this standard.	
Toni Timberman BPA #1	No The requirement for providing data should rest with the entity energizing the new equipment. Maybe should change the “no less than 7 days” language to say “as specified by the requesting entity, but no less than 7 days”. The RA may not legally be able to pass data that it received from one TOP to another TOP because of confidentiality requirements. A TOP that needs data from another TOP should make arrangements to get that data directly. The RA to RA link is ok. Also, data requests may not necessarily be limited to “new facilities or changes to existing facilities”.
The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA. The reference to ‘new facilities or changes to existing facilities’ was removed from this requirement.	
Todd Lucas (6?) Southern Co #1	No A seven day lead time may not, in many cases, be sufficient lead time to incorporate new facilities or changes to existing facilities in models or perform revised analysis. There should also be a requirement to provide data in real time with measures related to timeliness and accuracy.
The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA. We expect this data specification will address data needed for operational planning as well as data needed in real time.	
Roman Carter So Co Gen 3,5,6	No A 7 day lead time is not adequate. It would be better for coordination to require no

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(6 members)	less than 1 month lead time.
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.	
Francis Halpin BPA Bus Line #5,6	No 7 days is too short a period to fully evaluate the impact of new facilities on system. Six months seems a more reasonable time frame.
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.	
Alan Boesch NPPD #1	No Seven days prior to energization may be an unrealistic expectation. What type of data will the RA be providing to another RA or TOP on new or modified facilities? Will the data originate with the RA? If not the standard should be that the RA pass the data on within a specified period of time, but the requirement to provide the data belongs to the entity that owns the facility. Depending on the type of data you are talking about 7 days might be realistic.
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA. There is a separate requirement that adds more clarity to the types of data that must be provided to the RA. The RA may be requested to provide data to another RA so that each RA has critical data needed to monitor beyond its own system.	
Vern Colbert Dominion #1	No Seven days is not enough time.
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.	
<b>No – Comments requesting more details in requirements</b>	
Alan Johnson Mirant #6	No Agree conceptually, but need some clarification as to what is meant by "...changes to existing facilities". What types of changes are intended here?
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.	
ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2	No What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?
Several commenters suggested the same thing, and the term, 'technically' has been deleted from the revised standard. There is no difference between accurate data and technically accurate data.	
David Kiguel Hydro One #1	No It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.
The RA is responsible for specifying its data requirements in such a manner as will ensure validity for its intended application regardless of its origin or derivation. Please see the revised requirement in this standard called, 'Data Specification.'	
Kim Warren	No

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<p>IMO #2</p>	<p>The data needs to be defined before we can say yes. It could well be that the requested data is not readily available in the EMS or telemetered and may take much longer and could be costly if the providing RA did not feel it was important for his own purposes.</p> <p>See also comments in questions 20, 22, 24 and 26. To meet this requirement the RA needs the data sooner (say in 10 days).</p> <p><i>{Requirement “5” states that the RA has to notify other associated RA’s and TOP’s no less than 7 days prior to energization of new/changed facilities. If the Balancing Authority has the same time line requirement and gives the minimum notice (7 days) this does not allow time for the RA to complete their requirements of passing on the information to the associated RA’s and TOP’s. Therefore I suggest increasing the Transmission Operating Authority (Interchange Authority)(Transmission Owner) (Generator Owners) time line to 10 days.}</i></p>
<p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.</p> <p>There is a separate requirement that defines the RA’s obligations in specifying what data it needs. (See the revised requirement called, ‘Data Specification &amp; Collection’)</p>	
<p>Thomas Pruitt Duke #1</p>	<p>No</p> <p>Define “associated”. The language is not clear enough. For example, some might interpret the requirement to read differently than others (as follows) – A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.</p>
<p>The standard was modified to replace the term, “associated RA” with “the reliability authority which it has a reliability relationship.”</p> <p>The standard was also modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA</p>	
<p>Susan Morris SERC #2  Robert Reed TS (See List)</p>	<p>No</p> <p>The language is not clear enough. For example some might interpret the requirement to read differently than others (as follows) – A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.</p>
<p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.</p> <p>The revised standard clarifies that the operational planning analysis being addressed is conducted at least once a day and is looking at the day ahead.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No</p> <p>This requirement is unclear. There is confusion as to the type of data required. We agree if we assume that this requirement is for operational/scheduling information for performing a reliability assessment for operations planning. This does not work for data being provided for the first time from new facilities for planning studies.</p>

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<p>There is a separate requirement in this standard that addresses the type of data to be provided. Please reference the revised requirement now called, “Data Specification &amp; Collection.”</p> <p>The revised standard clarifies that the operational planning analysis being addressed is conducted at least once a day and is looking at the day ahead.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>This is too vague – provide what data? Who is receiving and providing required data should also be clarified. Is this just tied to telemetry, or is it more broad than that? Depending on what data this is, 7 days may be too short.</p> <p>The industry will need to change its current business practices in order to comply with requirement.</p>
<p>There is another requirement in this standard that addresses the details of the data to be provided. Please reference the revised requirement now called, “Data Specification &amp; Collection.”</p>	
<p><b>No – Mixed comments</b></p>	
<p>Ray Morella Ed Stein Joanne Borrell FirstEnergy #1, 3, 6 ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>Change the Requirement from ‘providing specified data no less than 7 days prior to the energization of new facilities’ to ‘providing specified data prior to the energization of new facilities’.</p> <p>(Change ‘by an (associated) RA’ to ‘by another RA’. Less words, more descriptive.</p> <p>Change ‘industry accepted format, timeframe, and technically accurate and complete’ to ‘industry accepted format, accurate and complete’. Timeframe is already specified in the standard. It doesn’t need to be repeated. Delete the description of ‘technically’.</p>
<p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.</p> <p>The standard was revised to replace “associated RA” with “the reliability authority with which it has a reliability relationship.”</p> <p>The adjective, “technically” was deleted.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>No</p> <p>This requirement seems backwards. Shouldn’t the TOP be the entity to provide data on new facilities to the RA? Also, submitting data 7 days prior to the energization of new facilities may not be long enough, especially for operational planning studies that may go out as far as 12 months. Perhaps NERC should not make this requirement, but leave it up to the Region, or Reliability Authority to determine what the appropriate notification time is.</p>
<p>The revised standard includes a requirement that the TOP provide data to its RA.</p> <p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.</p>	
<p>Richard Schwarz PNSC #2</p>	<p>No</p> <p>The entity who owned the information should provide it to who needs it. The RA may be constrained due to confidentiality agreements from passing the data on to entities other than another RA.</p> <p>The RA should be able to request data at any time, not just prior to energization of new facilities.</p>

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The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the specified data must be provided within the timeframe specified by the RA and does not make reference to 'energization of new facilities.'

The standard does not include any requirements for the RA to share the data it collects.

The standard was revised to require the RA to 'specify' what data it needs, rather than 'request' data. The RA must distribute the data specification and associated entities must provide data as specified.

<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>A RA should have to share data (modeling information) with their TOPs and any other RA that requests the information. The requirement needs to be clear that a TOP that desires data from an RA other than its own RA should ask their own RA for that data and then their RA would ask the other RA. The other RA (the RA with the data) then should have to notify and receive approval from the owner of the data (TOP or Generator) before providing the data for use by a non-associated TOP.</p> <p>Why 7 days? If the intent is to ensure the requestor knows about the new facilities and can update their model before energization of the new facilities, then more than 7 days notice should be required. If the intent is to ensure the requestor is receiving the real-time data associated with the new facilities, then 7 days may be adequate.</p> <p>Generally speaking, the TOP and Generator should be required to push data up to the RA, BA, and IA. The RA, BA, and IA should be required to specify the data they require within industry guidelines for reasonability.</p>
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The requirements in this standard need to be within the scope of the associated SAR. The purpose of this standard is to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. The RA, not the TOP, is responsible for preventing instability, uncontrolled separation or cascading outages. While the TOP may need data from its RA, the sharing of that data is beyond the scope of this standard.

The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the specified data must be provided within the timeframe specified by the RA and does not make reference to 'the energization of new facilities.'

This standard only addresses the data needed by the RA to support real time monitoring, operational planning analyses and real time assessments of its reliability area that are conducted relative to operating within its reliability area's interconnection reliability operating limits. Expanding the scope to address data to be provided to the BA and IA is outside the scope of this standard.

This standard was revised to indicate that the RA shall develop and distribute a data specification – and that the specification shall include a list of required data, a mutually agreeable format, and timeframe for providing data. Many commenters indicated that there aren't any 'industry guidelines' for reasonability, and each RA may have unique data needs.

<p>Peter Burke ATC #1</p>	<p>No</p> <p>Three concerns with this requirement:</p> <ul style="list-style-type: none"> <li>(6) TOP should not make requests, per response to question #16. Rather, the RA should make the requests and then hand that data down to the TOP.</li> <li>(6) This requirement and the others like it for the BA, IA, Generator and Transmission Owner (TOW) all state that the data should be supplied "as requested". That is needed but there should also be a requirement that RAs, IAs, BAs, Generators and TOWs should supply this information to one another, without a request, if the data has to do with major/critical facilities (i.e. an entity may not realize they should make a request.)</li> <li>(6) The requirement directs that data must be provided no less than 7 days in advance. Some new facilities can be significant so that 7 days in advance is not enough time for receiving data. In some cases, data for significant new</li> </ul>
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	<p>facilities would be needed a season or a year in advance.</p> <p>4. Estimated or approximate data should be acceptable prior to energization. “As built” data would be provided when available or when required telemetry is complete.</p>
<p>This requirement was modified so the TOP does not make data requests. However, this standard does not address how the TOP will acquire the data it needs. As revised this standard doesn’t include any requirements for the TOP to monitor and assess its subset of the transmission system.</p> <p>This standard only addresses the data the RA needs to support its responsibility of ensuring that its portion of the interconnected transmission system is being operated so it doesn’t exceed IROLs. Other standards will need to address the transfer of data to support other responsibilities.</p> <p>The reference to a 7 day time frame has been dropped from this standard. Many commenters indicated that a standard time frame for providing data was unrealistic. In the revised standard, each RA is required to specify a time frame for providing data.</p> <p>The reference to ‘prior to energization’ has been dropped from this standard. Many commenters indicated that there is no one perfect time frame for providing this data.</p>	
Joseph Buch Madison #4	<p>No</p> <p>See comments on question 26.</p> <p><i>{ The standard does not spell out the “data” required. There are certain key items which at a minimum are necessary to perform reliability analysis. These should be enumerated and a part of this standard. See further comments in questions 14 and 47.}</i></p>
<p>There is another requirement in this standard that charges the RA with responsibility for prescribing what data is needed. NERC will not produce a standard list of data to be supplied, since the data needed varies from one RA to another RA.</p>	
Compliance Managers	<p>The requirement for data provision/collection/timing and model development, and related compliance measurements and levels of non-compliance should be dealt with through the present working groups that are doing this work.</p>
<p>The SAR for this standard includes the following:</p> <p>Collect data needed for performing real time reliability analyses</p>	
Fred Frederick Vectren #3	<p>No</p>
<p><b>Yes – Comments about 7 days</b></p>	
Kathleen Goodman ISO NE #2	<p>Yes/No</p> <p>Seven days advanced notice may not be feasible for updates to real-time (EMS) systems due to the impact to operations during ‘cut-over’ activities. The time-frame requirement may vary widely depending on database requirements, support staffing, impact to real-time operations, etc. We believe the timing should be left to the RAs.</p>
<p>The standard was revised to indicate the RA is responsible for specifying when data must be provided.</p>	
Gerald Rheault Manitoba #1,3,5,6	<p>Yes</p> <p>Manitoba Hydro questions the 7 day period specified. Some processes would require significantly more lead time than that while some require less; how was the 7 day time chosen. The issue is one of supplying data on a timely basis. Isn’t that covered by another requirement.</p>
<p>The standard was revised to indicate the RA is responsible for specifying when data must be provided.</p>	
John Blazekovich Exelon #1,3,5,6	<p>Yes</p> <p>Estimated data that describes equipment should be provided several months in advance of energization so that operational planning studies (12 months in</p>

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	advance) can be performed. Estimated data is probably adequate for the equipment energization provided as-built data is provided within a reasonable amount of time. We suggest one month after energization as a reasonable time frame for providing as-built data. “Estimated” versus “as-built” data should be defined.
The standard was revised to indicate the RA is responsible for specifying when data must be provided.	
Yes – Comments indicating more details needed	
Mike Miller Southern Co #1	Yes Energization is testing or commercial date, needs definition.
The standard was revised to eliminate the phrase, ‘prior to energization of . . .’	
Tom Petrich (5) PG&E #1	Yes “Data” is open-ended. If the “data” refer to system parameters, then they would have to be calculated data and not “actual” or “state estimated”. If the requirement is for test data, some of them may not be available until after energization. We suggest adding qualifications to limit the universe of “data” required.
The standard was revised to add some qualifiers to the type of data that may be requested by the RA. In the revised standard, the RA must specify what data it needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area as they relate to operating without exceeding interconnection reliability operating limits.	
Yes – Other comments	
Ed Riley CA ISO #2	Yes The text of the Requirement should be changed to read “The RA shall specify data to be provided”
There is another requirement in this standard that addresses the RA’s data specification.	
Tony Jankowski We-Energies #4	Yes Concern: If this is real-time operational data, the communication links may take 30-90 days to establish. Requirement #3 and Requirement #4 require RA and TOP to request specific data requirements. This must be timely to achieve this Requirement #5.
The standard was revised to indicate the RA is responsible for specifying when data must be provided.	
Albert M. DiCaprio MAAC #2	Yes By allowing the RA to define the data required for its needs properly places the responsibility on the RA and avoids the problem of developing a standard that includes identifying specific data. The need to exclude the TOP is still noted.
The TOP has been omitted from this requirement.	

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<p>Charles Yeung Reliant Energy #6          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          James Stanton Calpine #5          Joe Minkstein PG&amp;E #5          Karl Kohlrus CWL&amp;P #5          Lee Westbrook Oncor #1          OLDTF (9?) 6 - #2 1 - #1,5          Richard Kafka Pepco #1          Sam Jones ERCOT #2          Stuart Goza TVA #1          William Smith Allegheny Pwr #1</p>	<p>Yes</p>
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**19. Requirement 5 – Do you agree with these levels of non-compliance for this requirement?**

<p><b>Original Levels of Non-compliance</b></p> <ol style="list-style-type: none"> <li>1. Not Applicable</li> <li>2. Not Applicable</li> <li>3. Not Applicable</li> <li>4. Data for new/revised facilities was not provided as requested</li> </ol>
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<p><b>Revised Levels of Non-compliance</b></p> <ol style="list-style-type: none"> <li>1. Not applicable</li> <li>2. Not applicable</li> <li>3. Not applicable</li> <li>4. Data not provided to the reliability authority as specified.</li> </ol>
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**Summary Consideration:**

The fourth level of non-compliance was modified to conform with the language in the revised requirement. The reference to 'new/revised facilities' was dropped – the revised requirement addresses the data the RA needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.

Several commenters suggested adding more levels of non-compliance – to give partial credit for having the data a little incorrect, or a little late, in an almost acceptable format, etc. The result of all of these is the same – the RA doesn't have the data it needs to accurately assess the system. There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any of its interconnection reliability operating limits. For these reasons, additional levels of non-compliance were not added. The industry will be asked to comment on this decision in the next posting of this standard.

<b>No – Comments indicating identifying levels of non-compliance is premature/inappropriate</b>	
Gregory Campoli NY ISO #2	No Premature to define levels of non compliance
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1	No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	

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Ed Riley CA ISO #2	No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
Kim Warren IMO #2	No The data needs to be defined before we can say yes. It could well be that the requested data is not readily available in the EMS or telemetered and may take much longer and could be costly if the providing RA did not feel it was important for his own purposes.
This standard will not define specifically what data must be provided. Data requirements vary from RA to RA and under the proposed standard, each RA must decide what data it needs and must develop a specification for that data.	
No – Comments indicating non-compliance needs to better match requirements	
Joseph Buch Madison #4	No See comments on question 27.  <i>{ There is only 1 level of non-compliance, level 4 and no definition of the data required. If certain key items of "data" were defined as part of the standard and they were not provided, a level 4 non-compliance would be appropriate. If these items were provided, however they were only provided 2 days before energization a level 3 non-compliance might be appropriate. Similarly, if the data on the key items were provided 3 to 7 days before energization a level 2 non-compliance might be appropriate. See further comments in question 47.}</i>
There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating within interconnection reliability operating limits. This standard will not define specifically what data must be provided. Data requirements vary from RA to RA and under the proposed standard, each RA must decide what data it needs and must specify that data.	
John Blazekovich Exelon #1,3,5,6	No Level of non-compliance should be tied to the impact of changes to the system. As stated the level of non-compliance is equal for major and minor changes in transmission system configuration, levels of non-compliance should recognize the difference.  Non compliance should be tied to the standard time frame for supplying data. Data maintenance is an on-going activity, the drafting team should recognize and address data maintenance and compliance implementation.
This standard is only addressing a subset of the data that must be provided to an RA. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating within interconnection reliability operating limits.  There were many commenters who objected to a standard time frame for supplying data, and that requirement has been modified to allow the RA to identify the time frame for supplying data. This should allow each RA to identify a time frame that is appropriate.  The standard was revised to shift the focus from data relative to new or changed facilities to all data the RA needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.	
Francis Halpin	No

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BPA Bus Line #5,6	There should be levels of compliance based upon notification and collaboration with affected parties
These levels of non-compliance must be linked to this requirement. This requirement does not have a notification component. Levels of non-compliance for notification and collaboration would be more appropriate for the requirement that address specifying what data is needed.	
FRCC 6-#1, 4-#2, 1-#2	No Requirements 4 and 5 need to be combined and focus on the TOP providing data to the RA when appropriate or requested. The RA needs to have a process in place for obtaining the data it needs which would include the timeframe for submitting data as well as the specification of what data is needed.
All of the similar requirements for providing data have been combined into a single requirement called "Data Provision." The TOP has been added to the list of functions that must provide data to its RA.	
Todd Lucas (6?) Southern Co #1	No The RA should be required to cooperate with entities requesting data and should provide the "agreed upon" data in a timely manner. The RA should not be required to blindly provide data without an understanding of the need.
The Functional Model identifies the RA as the entity with ultimate responsibility for reliability within its reliability area. The RA should not have to negotiate for data it needs. The revised standard does add some restrictions to the number of RAs that can request data by indicating that entities need to provide data to RAs that monitor their facilities. The revised standard does add some restrictions to the scope of the data to be provided by indicating this is data the RA needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits	
George Bartlett Entergy Svcs 1	No There probably should be more than one level of non-compliance and not supplying requested data should not be the highest level of violation. The first level should be "Data for new/revised facilities not provided to TOPs and associated RAs when the data was . The second level should be "Data for new/revised facilities was not provided as requested". The fourth level of non-compliance should be "Data not supplied to TOPs or associated RAs resulted in SOL violations".
There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn't have the data it needs to accurately assess the system with respect to its IROLs. It would be very difficult to determine that the lack of data, by itself, resulted in operating outside an IROL – for this reason the suggestion was not implemented.	
No – Comments indicating levels are inappropriate	
Alan Johnson Mirant #6	No Not sure that non-compliance should jump right to level 4.
There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.	
Alan Boesch NPPD #1	No The level of non-compliance does not seem appropriate. Start at level one and

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	then escalate up through the different levels depending on how late it is seems to be more appropriate.
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No</p> <p>In general there should be at least two levels of non-compliance identified. Why does the data have to be requested? How often should an entity request data? Should data requests be a one time declaration in writing asking for data on new facilities? Is this requirement needed since there is not enough detail to assess non-compliance?</p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>The standard was revised to change the language so the data isn't 'requested', it is 'specified.' The RA must distribute the data specification to the entities with facilities monitored by that RA and to the entities that provide the RA with facility status.</p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>No</p> <p>Seems like there should be more than one level of non-compliance. What if the data was incomplete for example? Shouldn't merit some non-compliance penalty?</p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>What if they provide the data, but it is 3 days prior to energization? Or they provide it 3 days after energization? Or 3 weeks after energization? What if they provide only partial data? Or only incorrect data? Are all these non-compliance events truly equal?</p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn't have the data it needs to accurately assess the system with respect to its IROLs.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>Levels of non-compliance would be better if defined something like:</p> <ul style="list-style-type: none"> <li>(6 Data for new/revised facilities was provided less than seven days prior to energization.</li> <li>(6 Data for new/revised facilities was provided before one month after but not before energization.</li> <li>(6 Data for new/revised facilities was provided before three months but not before one month after energization.</li> <li>4. Data for new/revised facilities was not provided within three months after energization.</li> </ul>

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<p>The requirement was changed to allow each RA the flexibility to assign its own 'due date', so adopting these recommended levels of non-compliance is no longer appropriate. The result of all of these is the same – the RA doesn't have the data it needs to accurately assess the system.</p>	
<p><b>No – Comments suggesting additional changes to requirements</b></p>	
<p>Karl Kohlrus CWL&amp;P #5</p>	<p>No There should be a reminder sent out if the data is not sent initially before going directly to Level 4.</p>
<p>Each entity must assume responsibility for meeting its own requirements. The suggestion that a reminder be sent out has not been adopted.</p>	
<p>Thomas Pruitt Duke #1 Fred Frederick Vectren #3</p>	<p>No</p>
<p><b>Yes – Comments suggesting additional changes to requirements</b></p>	
<p>Richard Schwarz PNSC #2</p>	<p>Yes This requirement should be for any data request, not just for new or revised facilities.</p>
<p>The requirement that addresses the RA's data requests was modified to reflect this suggestion. The revised standard addresses all data the RA needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within interconnection reliability operating limits.</p>	
<p>Toni Timberman BPA #1</p>	<p>Yes Again, a data request may not necessarily pertain to new or revised facilities. Requirement must be made more generic.</p>
<p>The requirement that addresses the RA's data requests was modified to reflect this suggestion. The revised standard addresses all data the RA needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within interconnection reliability operating limits.</p>	

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<p>Albert M. DiCaprio MAAC #2          Bob Burkard NCMAPA1 # 3,4,5          Charles Yeung Reliant Energy #6          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          Doug Hils Cinergy #1          ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2          Ed Stein Firstenergy Sol #6          Gerald Rheault Manitoba #1,3,5,6          James Stanton Calpine #5          Joanne Borrell FirstEnergy Sol #3          Joe Minkstein PG&amp;E #5          Kathleen Goodman ISO NE #2          Mike Miller Southern Co #1          OLDTF (9?) 6 - #2 1 - #1,5          Ray Morella FirstEnergy #1          Richard Kafka Pepco #1          Roman Carter So Co Gen 3,5,6 (6 members)          Sam Jones ERCOT #2          Stuart Goza TVA #1          Tom Petrich (5) PG&amp;E #1          Tony Jankowski We-Energies #4          Vern Colbert Dominion #1          William Smith Allegheny Pwr #1</p>	<p>Yes</p>
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### 20. Requirement 6 – Do you agree with this requirement and its associated performance/outcome and measure/s?

#### Original Requirement

The Balancing Authority (BA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

#### Measure(s)

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

#### Outcome(s)

The BA shall provide data, as requested, to its (associated) RA and/or TOP.

**Revised Requirement: None**

#### Summary Consideration:

Several commenters indicated that the BA does not have any facility data to provide to the RA, and this is true. This requirement was dropped from this standard.

No – Comments about appropriateness of requirement	
Albert M. DiCaprio MAAC #2	No The Functional Model only assigns the BA responsibility for Balancing not for facility data.
Agreed. This requirement has been dropped from this standard.	
Richard Kafka Pepco #1	No BA is not responsible for facility data
Agreed. This requirement has been dropped from this standard.	
Tony Jankowski We-Energies #4	No The RA/TOP should already have all required data as stated in Requirement #3 and Requirement #4.
The original Requirements 3 and 4 addressed the requests for data. By themselves, these two requirements would not result in the RA having all the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within interconnection reliability operating limits. This requirement has been dropped from this standard because the BA doesn't have any facility data to provide to the RA.	
Tom Petrich (5) PG&E #1	We are not sure what kind of data the BA function can provide before energization. An example would be helpful.
This requirement has been dropped from this standard. The BA does not have any facility data.	
John Blazekovich Exelon #1,3,5,6	No Do not understand the need for this requirement

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This requirement has been dropped from this standard. The BA does not have any facility data.	
No – Comments about scope of requirement	
FRCC 6-#1, 4-#2, 1-#2	No This requirement should not just focus on new facilities or changes to existing facilities. As we have stated for the TOP, the BA should have requirements for providing the data to the RA as specified by the RA and in the timeframe the RA needs.
This requirement has been dropped from this standard. The BA does not have any facility data.	
Kim Warren IMO #2	No Requirement “5” states that the RA has to notify other associated RA’s and TOP’s no less than 7 days prior to energization of new/changed facilities. If the Balancing Authority has the same time line requirement and gives the minimum notice (7 days) this does not allow time for the RA to complete their requirements of passing on the information to the associated RA’s and TOP’s. Therefore I suggest increasing the Transmission Operating Authority time line to 10 days.
This requirement has been dropped from this standard. The BA does not have any facility data. Your comment was applied to the changes made to the requirement that addresses the RA’s data specification. The standard was revised to indicate that the RA shall specify the time frame for providing data. This should correct the timing issue you highlighted.	
Peter Burke ATC #1	No Same concerns as expressed in reply to Question 18. One entity may not know it should request information from another entity. There should also be a requirement on the entity where the change is occurring to provide that data, unrequested, to the other entities if it involves major/critical facilities.
This requirement has been dropped from this standard. The BA does not have any facility data. Your comment was applied to the changes made to the requirement that the RA develop and distribute a data specification. This should eliminate the need for individual data requests. Other requirements address the need to submit data to the RA as specified by that RA.	
Compliance Managers	The requirement for data provision/collection/timing and model development, and related compliance measurements and levels of non-compliance should be dealt with through the present working groups that are doing this work.
Although this requirement was dropped from this standard, other requirements for the provision of data have not been dropped because the SAR for this standard includes the following:	
<ul style="list-style-type: none"> <li>• Collect data needed for performing real time reliability analyses</li> </ul>	
No – Comments about 7 days	
Francis Halpin BPA Bus Line #5,6	No 7 days is too short a period to fully evaluate the impact of new facilities on system. Six months seems a more reasonable time frame.
This requirement has been dropped from this standard. The BA does not have any facility data. Your comment was applied to the changes made to remove the references to ‘7 days’ from this standard. In the revised standard, each RA specifies a time frame for providing it with the data it needs. This should allow each RA to identify a realistic time frame for different types of data.	
Doug Hils Cinergy #1	No Model updates are extremely necessary, however there may be times that temporary changes are made to get some equipment back in service by reconfiguring the system. Would there be a violation if that equipment was placed back in service before the 7 day notification took place?

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<p>This requirement has been dropped from this standard. The BA does not have any facility data. Your comment was applied to the changes made to remove the references to '7 days' from this standard. In the revised standard, each RA specifies a time frame for providing it with the data it needs. This should allow each RA to identify a realistic time frame for different types of data.</p>	
<p>Vern Colbert Dominion #1</p>	<p>No Seven days is not enough time.</p>
<p>This requirement has been dropped from this standard. The BA does not have any facility data. Your comment was applied to the changes made to remove the references to '7 days' from this standard. In the revised standard, each RA specifies a time frame for providing it with the data it needs. This should allow each RA to identify a realistic time frame for different types of data.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>No More lead time should be required such as 1 month.</p>
<p>This requirement has been dropped from this standard. The BA does not have any facility data. Your comment was applied to the changes made to remove the references to '7 days' from this standard. In the revised standard, each RA specifies a time frame for providing it with the data it needs. This should allow each RA to identify a realistic time frame for different types of data.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>No See comments for #18. <i>{ A seven day lead time may not, in many cases, be sufficient lead time to incorporate new facilities or changes to existing facilities in models or perform revised analysis. There should also be a requirement to provide data in real time with measures related to timeliness and accuracy. }</i></p>
<p>This requirement has been dropped from this standard. The BA does not have any facility data. Your comment was applied to the changes made to remove the references to '7 days' from this standard. In the revised standard, each RA specifies a time frame for providing it with the data it needs. This should allow each RA to identify a realistic time frame for different types of data.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No The BA should provide data when requested, not 7 days prior to energization. Please delete the phrase "no less than 7 days prior to the energization of new facilities or changes to existing facilities" from both the Requirements and the Measures.</p>
<p>This requirement has been dropped from this standard. The BA does not have any facility data. Your comment was applied to the changes made to remove the references to '7 days' from this standard. In the revised standard, each RA specifies a time frame for providing it with the data it needs. This should allow each RA to identify a realistic time frame for different types of data.</p>	
<p>Bob Burkard NCMPA1 # 3,4,5</p>	<p>No Emergency changes to existing facilities should be exempted with a requirement to coordinate with the above entities.</p>
<p>This requirement has been dropped from this standard. The BA does not have any facility data. The standard was modified to indicate that the RA must develop and distribute a data specification to identify what data it needs and the time frame for providing that data. The RA may choose to address emergency changes in its data specification, but requiring such a provision is beyond the scope of this standard.</p>	
<p>Alan Boesch NPPD #1</p>	<p>No Seven days prior to energization may be an unrealistic expectation. What type of</p>

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	<p>data will the BA be providing to an associated RA or TOP on new or modified facilities? Will the data originate with the BA? If not the standard should be that the BA pass the data on within a specified period of time, but the requirement to provide the data belongs to the entity that owns the facility. Depending on the type of data you are talking about 7 days might be realistic.</p>
<p>This requirement has been dropped from this standard. The BA does not have any facility data. Your comment was applied to the changes made to remove the references to '7 days' from this standard. In the revised standard, each RA specifies a time frame for providing it with the data it needs. This should allow each RA to identify a realistic time frame for different types of data.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>Yes/No Seven days advanced notice may not be feasible for updates to real-time (EMS) systems due to the impact to operations during 'cut-over' activities. The time-frame requirement may vary widely depending on database requirements, support staffing, impact to real-time operations, etc. We believe the timing should be left to the RAs.</p>
<p>This requirement has been dropped from this standard. The BA does not have any facility data. Your comment was applied to the changes made to remove the references to '7 days' from this standard. In the revised standard, each RA specifies a time frame for providing it with the data it needs. This should allow each RA to identify a realistic time frame for different types of data.</p>	
<p><b>No – Comments asking for more details in requirement</b></p>	
<p>Alan Johnson Mirant #6</p>	<p>No Agree conceptually, but need some clarification as to what is meant by "...changes to existing facilities". What types of changes are intended here?</p>
<p>This requirement has been dropped from this standard. The BA does not have any facility data.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No It is not clear whether the BA must supply this data to any requesting RA or just of the RA that has jurisdiction over the BA's area. We propose that the BA should only have to supply this information to his RA. Other RA's should contact the BA's RA for the information. Further, we suggest this requirement be changed similar to our comments provided on Requirement #2 under our response to question #13. <i>{ If the requirement was changed to the TOP providing real time data, equipment limits, and model updates to their RA as specified by their RA, then the levels of non-compliance could be:</i> (6) <i>Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for up to 24 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</i> (6) <i>Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period of 24-36 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</i> (6) <i>Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period of 36-48 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</i> (6) <i>Actual TOP telemetered data specified is not be provided by the TOP to the</i></p>

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	<p><i>RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period greater than 48 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant), or</i></p> <p><i>the TOP did not station personnel at the Station or Plant as directed by the RA to provide this data while telemetry was being restored, or</i></p> <p><i>the TOP did not provide equipment limits as requested, or</i></p> <p><i>The TOP did not provide modeling update information until after the energization of new facilities.</i></p> <p><i>Note: the idea is that depending on system conditions, the RA may be able to rely on their previous operational planning analysis (next day analysis) for a day or so. However, if system conditions warrant, the RA should have the authority to direct the TOP to man the station and if the TOP refuses that should be considered a significant infraction.</i></p> <p><i>Need to define “surrogate value” and “surrogate data”. }</i></p>
<p>This requirement has been dropped from this standard. The BA does not have any facility data.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA’s ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn’t have the data it needs to accurately assess the system with respect to its IROs.</p>	
<p>Guy Zito (See List) NPCC #2 – 2, NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>No</p> <p>It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer’s data, etc.</p>
<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p>	
<p>Joseph Buch Madison #4</p>	<p>No</p> <p>See comments on question 26.</p> <p><i>{ The standard does not spell out the “data” required. There are certain key items which at a minimum are necessary to perform reliability analysis. These should be enumerated and a part of this standard. See further comments in questions 14 and 47. }</i></p>
<p>This requirement has been dropped from this standard. The BA does not have any facility data.</p> <p>This standard will not provide a list of data that must be provided because any list developed would be more restrictive than needed for some RAs and would not be restrictive enough for other RAs. As revised, the standard requires each RA to specify what data it needs and to distribute the data specification to the entities that have facilities monitored by that RA and to the entities that provide the RA with facility status.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No</p> <p>This requirement is unclear. There is confusion as to the type of data. We agree if we assume that this requirement is for operational/scheduling information for performing a reliability assessment for operation planning. This does not work for data being provided for the first time from new facilities such as engineering data.</p>
<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p>	

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<p>Thomas Pruitt Duke #1 Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No</p> <p>The language is not clear enough. See number 18 comments, it is not apparent the types of data being referred to in this requirement. Clarification is needed to specify the required data – from testing, real-time operation, engineering specifications, manufacturer’s specifications, etc.</p> <p><i>{ For example some might interpret the requirement to read differently than others (as follows) – A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time. }</i></p>
<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p> <p>In the revised standard, all references to ‘7 days’ have been dropped. The revised standard requires the RA to specify the time frame for providing it with the data it needs.</p>	
<p><b>No –Mixed comments</b></p>	
<p>Lloyd Linke MAPP #2</p>	<p>This is too vague – provide what data? Who is receiving and providing required data should also be clarified. Is this just tied to telemetry, or is it more broad than that? Depending on what data this is, 7 days may be too short.</p> <p>The industry will need to change its current business practices in order to comply with requirement</p>
<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p> <p>In the revised standard, all references to ‘7 days’ have been dropped. The revised standard requires the RA to specify the time frame for providing it with the data it needs.</p>	
<p>Ray Morella Joanne Borrell Ed Stein FirstEnergy #1, 3, 6</p>	<p>No</p> <p>(1) Change the Requirement from ‘providing specified data no less than 7 days prior to the energization of new facilities’ to ‘providing specified data prior to the energization of new facilities’.</p> <p>(2) not sure if ‘shall provide data as specified by an (associated ) Reliability Coordinator’ means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the BA can request the data. The standard needs to be clear on which meaning is correct.</p> <p>(3) Change ‘industry accepted format, timeframe, and technically accurate and complete’ to ‘industry accepted format, accurate and complete’. Timeframe is already specified in the standard. It doesn’t need to be repeated. Delete the description of ‘technically’.</p>
<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p> <p>In the revised standard, all references to ‘7 days’ have been dropped. The revised standard requires the RA to specify the time frame for providing it with the data it needs.</p> <p>The revised standard clarifies that the RA must develop a data specification and distribute the data specification to those entities that have facilities monitored by that RA. The revised standard limits the functions that must provide data to the RA to just those with facilities monitored by the RA and those that provide the RA with facility status.</p> <p>The revised standard doesn’t use the terms, ‘industry accepted format’, or ‘technically accurate’.</p>	
<p>ECAR Ops Panel #1 – 8</p>	<p>No</p> <p>Change the Requirement from (providing specified data no less than 7 days prior to the energization of new facilities) to (providing specified data prior to the</p>

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<p>#5 – 1 #2 – 2</p>	<p>energization of new facilities). I can just see someone delaying the installation of a needed facility for 7 days because they didn't want to get a non-compliance. There was not complete agreement on this comment. Seven companies voted in favor of this comment. One company voted against this comment.</p> <p>I'm not sure if 'shall provide data as specified by an (associated ) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the BA can request the data. The standard needs to be clear on which meaning is correct.</p> <p>Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'. What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?</p>
<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p> <p>In the revised standard, all references to '7 days' have been dropped. The revised standard requires the RA to specify the time frame for providing it with the data it needs.</p> <p>The revised standard clarifies that the RA must develop a data specification and distribute the data specification to those entities that have facilities monitored by that RA and to those entities that provide the RA with facility status.</p> <p>The revised standard doesn't use the terms, 'industry accepted format', or 'technically accurate'.</p>	
<p>Fred Frederick Vectren #3</p>	<p>No</p>
<p><b>Yes – Comments about 7 days</b></p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>See comments for Requirement 5 <i>{ I agree with the requirement, but I question the value of making a hard 7-day rule. Why not 14 days or 21 days???? }</i></p>
<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p> <p>In the revised standard, all references to '7 days' have been dropped. The revised standard requires the RA to specify the time frame for providing it with the data it needs.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>Yes See comment for #18. <i>{ Manitoba Hydro questions the 7 day period specified. Some processes would require significantly more lead time than that while some require less; how was the 7 day time chosen. The issue is one of supplying data on a timely basis. Isn't that covered by another requirement. }</i></p>
<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p> <p>In the revised standard, all references to '7 days' have been dropped. The revised standard requires the RA to specify the time frame for providing it with the data it needs.</p>	
<p>Sam Jones ERCOT #2OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>Yes The timing of this requirement conflicts with Requirement 5. That is, the seven days does not leave the RA any time to complete its obligations under requirement 5.</p>

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<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p> <p>In the revised standard, all references to '7 days' have been dropped. The revised standard requires the RA to specify the time frame for providing it with the data it needs.</p>	
<p>Toni Timberman BPA #1</p>	<p>Yes</p> <p>The language “no less than 7 days prior to the energization of new facilities or changes to existing facilities” is not relevant to BA data, since the BA is not normally involved with new facilities and the data requested from a BA is very different than from the other functions.</p>
<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p> <p>In the revised standard, all references to '7 days' have been dropped. The revised standard requires the RA to specify the time frame for providing it with the data it needs.</p>	
<p>Richard Schwarz PNSC #2</p>	<p>Yes</p> <p>Should pertain to any facilities at any time with the timeframe defined by the RA according to its needs.</p>
<p>This requirement was addressing data related to facilities and has been dropped from this standard. The BA does not have any facility data.</p> <p>In the revised standard, all references to '7 days' have been dropped. The revised standard requires the RA to specify the time frame for providing it with the data it needs.</p>	
<p>Charles Yeung Reliant Energy #6 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Ed Riley CA ISO #2 James Stanton Calpine #5 Joe Minkstein PG&amp;E #5 Karl Kohlrus CWL&amp;P #5 Lee Westbrook Oncor #1 Mike Miller Southern Co #1 Stuart Goza TVA #1 William Smith Allegheny Pwr #1</p>	<p>Yes</p>

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**21. Requirement 6 – Do you agree with these levels of non-compliance for this requirement?**

<p><b>Original Levels of Non-compliance</b></p> <ol style="list-style-type: none"> <li>1. Not Applicable</li> <li>2. Not Applicable</li> <li>3. Not Applicable</li> <li>4. Data for new/revised facilities was not provided as requested</li> </ol>
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**Revised Levels of Non-compliance: None**

**Summary Consideration:**

Several commenters indicated that the BA does not have any facility data to provide the RA. Consequently, this requirement was dropped from the revised standard.

Comments that provided specific suggestions for improvements to the levels of non-compliance have been considered for their application to the same requirement for other functions.

We will ask the industry for feedback to verify that dropping this requirement meets the industry's approval.

<b>No – Comments about appropriateness of levels of non-compliance</b>	
Raj Rana AEP #1,3,5,6	<p>No</p> <p>What if they provide the data, but it is 3 days prior to energization? Or they provide it 3 days after energization? Or 3 weeks after energization? What if they provide only partial data? Or only incorrect data? Are all these non-compliance events truly equal?</p>
<p>This requirement was dropped from this standard. For the similar data provision requirements, the language was changed to omit the references to '7 days'. The revised standard requires the RA to develop and distribute a data specification – the data specification must include the time frame for providing the data.</p> <p>The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn't have the data it needs to accurately assess the system with respect to its IROLs.</p>	
George Bartlett Entergy Svcs 1	<p>No</p> <p>There probably should be more than one level of non-compliance and not supplying requested data should not be the highest level of violation. The first level should be "Data for new/revised facilities not provided to TOPs and associated RAs when the data was . The second level should be "Data for new/revised facilities was not provided as requested". The fourth level of non-compliance should be "Data not supplied to TOPs or associated RAs resulted in SOL violations".</p>
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn't have the data it needs to accurately assess the system with respect to its IROLs. It would be very difficult to determine that the lack of data, by itself, resulted in operating outside an IROL – for this reason the suggestion was not implemented.</p>	

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Francis Halpin BPA Bus Line #5,6	No There should be levels of compliance based upon notification and collaboration with affected parties
<p>This requirement was dropped from this standard.</p> <p>Levels of non-compliance must be linked to the associated requirement. This requirement did not have a notification component. Levels of non-compliance for notification and collaboration would be more appropriate for the requirement that address specifying what data is needed.</p>	
Alan Johnson Mirant #6	No Not sure that non-compliance should jump right to level 4.
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p>	
Alan Boesch NPPD #1	No The level of non-compliance does not seem appropriate. Starting at level one and then escalate up through the the different levels depending on how late it is seems to be more appropriate.
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p>	
Peter Burke ATC #1	<p>No</p> <p>Why do we go straight to level 4? Is it assumed that things are already working properly and that the penalty is being applied due to a lapse? If there are fines for non-compliance, are people incented to avoid paying fines by not energizing new equipment that's needed for reliability?</p> <p>Levels of non-compliance would be better if defined something like:</p> <ul style="list-style-type: none"> <li>(6 Data for new/revised facilities was provided less than seven days prior to energization.</li> <li>(6 Data for new/revised facilities was provided before one month after but not before energization.</li> <li>(6 Data for new/revised facilities was provided before three months but not before one month after energization.</li> <li>4. Data for new/revised facilities was not provided within three months after energization.</li> </ul>
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. The corresponding requirement for the RA to specify what data it needs was changed to allow each RA the flexibility to assign its own 'due date', so adopting these recommended levels of non-compliance is no longer appropriate.</p> <p>The result of all of these is the same – the RA doesn't have the data it needs to accurate assess the system.</p>	
Joseph Buch Madison #4	No See comments on question 27.

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	<p><i>{ There is only 1 level of non-compliance, level 4 and no definition of the data required. If certain key items of “data” were defined as part of the standard and they were not provided, a level 4 non-compliance would be appropriate. If these items were provided, however they were only provided 2 days before energization a level 3 non-compliance might be appropriate. Similarly, if the data on the key items were provided 3 to 7 days before energization a level 2 non-compliance might be appropriate. See further comments in question 47.}</i></p>
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA’s ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. The corresponding requirement for the RA to specify what data it needs was changed to allow each RA the flexibility to assign its own ‘due date’, so adopting these recommended levels of non-compliance is no longer appropriate. The result of all of these is the same – the RA doesn’t have the data it needs to accurately assess the system.</p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>See comments for requirement 5</p> <p><i>{ Seems like there should be more than one level of non-compliance. What if the data was incomplete for example? Shouldn’t merit some non-compliance penalty?}</i></p>
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA’s ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. Whether the data is incomplete or incorrect or not provided, the result is the same – the RA doesn’t have the data it needs to accurately assess the system.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>Perhaps there should be several levels that are time dependent. See earlier comments regarding self certification and re-certification.</p> <p><i>{ Section 201 (e) states that the RA will demonstrate compliance thru the self certification process with re-certification on a schedule established by the compliance monitor. We do not agree with the re-certification part of this statement. The compliance monitoring of this standard is not for certification on an entity performing a function.</i></p> <p><i>There is no need for any re-certification in connection with this standard. The self certification process is just a way for an entity to provide information to the compliance monitor that will be validated thru spot reviews etc. The re-certification statement appears in every compliance section in this document. It needs to be removed throughout.}</i></p>
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA’s ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. The corresponding requirement for the RA to specify what data it needs was changed to allow each RA the flexibility to assign its own ‘due date’, so adopting these recommended levels of non-compliance is no longer appropriate. Whether the data is one day late or five months late, the result is the same – the RA doesn’t have the data it needs to accurately assess the system.</p> <p>Re-certification as used here, is not the certification process that an entity goes through to receive a ‘certificate’ to operate as a reliability function. Self-certification is a term used in the compliance program that refers to a process whereby an entity completes a form that states the entity is in compliance – and re-certification is the periodic re-submittal of that form to restate that the entity is still in compliance with the associated requirement.</p>	
<p><b>No – Comments indicating addressing non-compliance now is premature</b></p>	

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Thomas Pruitt Duke #1 Todd Lucas (6?) Southern Co #1 Susan Morris SERC #2 Robert Reed TS (See List)	No Until numbers 18 and 20 are resolved (clarification of language) the levels of non-compliance cannot be determined. In general there should be at least two levels of non-compliance identified..
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p>	
Ed Riley CA ISO #2	No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1	No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
Gregory Campoli NY ISO #2	No It is premature to develop compliance levels at this time.
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p><b>No – Comments indicating an expansion of the requirements is needed</b></p>	
Karl Kohlrus CWL&P #5	No There should be a reminder sent out if the data is not sent initially before going directly to Level 4.
<p>This requirement was dropped from this standard.</p> <p>Each entity must assume responsibility for meeting its own requirements. The suggestion that a reminder be sent out has not been adopted.</p>	
John Blazekovich Exelon #1,3,5,6 Albert M. DiCaprio MAAC #2 Tony Jankowski We-Energies #4	No

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Fred Frederick Vectren #3	
Toni Timberman BPA #1	Yes delete new/revised facilities
<p><a href="#">This requirement was dropped from this standard.</a>  <a href="#">The standard was revised so that all references to 'new/revised facilities' were dropped.</a></p>	
Richard Schwarz PNSC #2	Yes Should pertain to all facilities
<p><a href="#">This requirement was dropped from this standard.</a>  <a href="#">The standard was revised so that all references to 'new/revised facilities' were dropped.</a></p>	
Bob Burkard NCMPA1 # 3,4,5 Charles Yeung Reliant Energy #6 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Doug Hils Cinergy #1 ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2 Ed Stein Firstenergy Sol #6 Gerald Rheault Manitoba #1,3,5,6 James Stanton Calpine #5 Joanne Borrell FirstEnergy Sol #3 Joe Minkstein PG&E #5 Kathleen Goodman ISO NE #2 Kim Warren IMO #2 Mike Miller Southern Co #1 Ray Morella FirstEnergy #1 Richard Kafka Pepco #1 Roman Carter So Co Gen 3,5,6 (6 members) Sam Jones ERCOT #2 Stuart Goza TVA #1 Tom Petrich (5) PG&E #1	Yes

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**22. Requirement 7 – Do you agree with this requirement and its associated performance/outcome and measure/s?**

<p><b>Original Requirement</b></p> <p>The Interchange Authority (IA) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities</p> <p><b>Measure(s)</b></p> <p>Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.</p> <p><b>Outcome(s)</b></p> <p>The IA shall provide data, as requested, to its (associated) RA and/or TOP.</p>
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Revised Requirement: None

**Summary Consideration:**

Several commenters indicated that the IA does not have any facility data to provide to the RA that is needed to support real time monitoring or analyses and isn't already addressed by another standard. Consequently, this requirement was dropped from the revised standard.

<b>No – Comments indicating not appropriate for the IA</b>	
Francis Halpin BPA Bus Line #5,6	No Responsibilities relegated to the IA in the Functional Model are related to the implementation of Interchange Schedules; they do not include responsibilities related to this requirement.
This requirement has been dropped from this standard. The data provided by the IA to the RA is addressed in the Coordinate Interchange Standard.	
Albert M. DiCaprio MAAC #2	No IA is not involved with facility data – (only Interchange Schedules)
This requirement has been dropped from this standard. The data provided by the IA to the RA is addressed in the Coordinate Interchange Standard.	
Peter Burke ATC #1	No Same responses as provided to Questions 18 & 20. <i>{{A seven day lead time may not, in many cases, be sufficient lead time to incorporate new facilities or changes to existing facilities in models or perform revised analysis. There should also be a requirement to provide data in real time with measures related to timeliness and accuracy.}}</i> (What new facilities would an IA be placing into service?)
This requirement has been dropped from this standard. The data provided by the IA to the RA is addressed in the Coordinate Interchange Standard. The revised standard does not include the '7 day' lead time – in the revised standard each RA must specify when it needs data.	
Sam Jones	No

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ERCOT #2OLDTF (9?) 6 - #2 1 - #1,5	This Requirement makes no sense. The IA authorizes next-hour bilateral Transactions and Market dispatch that are ready for physical implementation.
This requirement has been dropped from this standard. The data provided by the IA to the RA is addressed in the <a href="#">Coordinate Interchange Standard</a> .	
Vern Colbert Dominion #1	No It is not clear what data the IA would be required to provide.
This requirement has been dropped from this standard. The data provided by the IA to the RA is addressed in the <a href="#">Coordinate Interchange Standard</a> .	
Richard Kafka Pepco #1	No IA is responsible for interchange information, not facility data
This requirement has been dropped from this standard. The data provided by the IA to the RA is addressed in the <a href="#">Coordinate Interchange Standard</a> .	
Tony Jankowski We-Energies #4	No The RA/TOP should already have all required data as stated in Requirement #3 and Requirement #4.
The original Requirement 3 addressed the RA requesting data from all functions with facilities monitored by that RA. The original Requirement 4 addressed one RA providing data to another RA. By themselves, these two requirements would not result in the RA having all the data it needs. This requirement has been dropped from this standard. The data provided by the IA to the RA is addressed in the <a href="#">Coordinate Interchange Standard</a> .	
Tom Petrich (5) PG&E #1	We are not sure what kind of data the IA function can provide before energization. An example would be helpful.
This requirement has been dropped from this standard. The data provided by the IA to the RA is addressed in the <a href="#">Coordinate Interchange Standard</a> .	
FRCC 6-#1, 4-#2, 1-#2	No First of all, the information the IA will be providing the RA will deal with interchange schedules. We are not sure what other information the IA will be giving the RA or TOP for that matter that will involve new facilities. Would it be more appropriate to have the requirement center around the IA providing the interchange information to the RA in a timely manner so that the impact of the interchange schedules can be considered in the reliability analyses?
This requirement has been dropped from this standard. The data provided by the IA to the RA is addressed in the <a href="#">Coordinate Interchange Standard</a> .	
John Blazekovich Exelon #1,3,5,6	No Do not understand the need for this requirement
This requirement has been dropped from this standard. The data provided by the IA to the RA is addressed in the <a href="#">Coordinate Interchange Standard</a> .	
Compliance Managers	The requirement for data provision/collection/timing and model development, and related compliance measurements and levels of non-compliance should be dealt with through the present working groups that are doing this work.
Although this requirement was dropped from this standard, other requirements for the provision of data have not been dropped because the SAR for this standard includes the following:	
<ul style="list-style-type: none"> <li>Collect data needed for performing real time reliability analyses</li> </ul>	
No – Comments indicating 7 days is not realistic	

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Roman Carter So Co Gen 3,5,6 (6 members)	No More time such as 1 month should be considered.
<p>This requirement has been dropped from this standard.</p> <p>The revised standard does not include any specific references to a '7 day' lead time for data provision – in the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p>	
Alan Boesch NPPD #1	No Seven days prior to energization may be an unrealistic expectation. What type of data will the IA be providing to an associated RA or TOP on new or modified facilities? Will the data originate with the IA? If not the standard should be that the IA pass the data on within a specified period of time, but the requirement to provide the data belongs to the entity that owns the facility. Depending on the type of data you are talking about 7 days might be realistic.
<p>This requirement has been dropped from this standard.</p> <p>The revised standard does not include any specific references to a '7 day' lead time for data provision – in the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p>	
George Bartlett Entergy Svcs 1	No The IA should provide data when requested, not 7 days prior to energization. Please delete the phrase “no less than 7 days prior to the energization of new facilities or changes to existing facilities” from both the Requirements and the Measures.
<p>This requirement has been dropped from this standard.</p> <p>The revised standard does not include any specific references to a '7 day' lead time for data provision – in the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p>	
Doug Hils Cinergy #1	No In general I agree with the requirement. Model updates are extremely necessary, however there may be times that temporary changes are made to get some equipment back in service by reconfiguring the system. Would there be a violation if that equipment was placed back in service before the 7 day notification took place?
<p>This requirement has been dropped from this standard.</p> <p>The revised standard does not include any specific references to a '7 day' lead time for data provision – in the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p>	
Kim Warren IMO #2	No Requirement “5” states that the RA has to notify other associated RA’s and TOP’s no less than 7 days prior to energization of new/changed facilities. If the Interchange Authority has the same time line requirement and gives the minimum notice (7 days) this does not allow time for the RA to complete their requirements of passing on the information to the associated RA’s and TOP’s. Therefore I suggest increasing the Interchange Authority time line to 10 days.
<p>This requirement has been dropped from this standard.</p> <p>The revised standard does not include any specific references to a '7 day' lead time for data provision – in the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p>	
Lee Xanthakos	See comments for requirement 5

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SCE&G #1	<i>{ I agree with the requirement, but I question the value of making a hard 7-day rule. Why not 14 days or 21 days???? }</i>
<p>This requirement has been dropped from this standard.</p> <p>The revised standard does not include any specific references to a ‘7 day’ lead time for data provision – in the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p>	
<p><b>No – Comments indicating requirement needs more details</b></p>	
<p>Thomas Pruitt Duke #1 Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No</p> <p>Clarification language is necessary. Same as 18, 20, 21 above.</p> <p><i>{The language is not clear enough. For example some might interpret the requirement to read differently than others (as follows) – A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.}</i></p> <p><i>{The language is not clear enough. See number 18 comments, it is not apparent the types of data being referred to in this requirement. Clarification is needed to specify the required data – from testing, real-time operation, engineering specifications, manufacturer’s specifications, etc.}</i></p> <p><i>{Until numbers 18 and 20 are resolved (clarification of language) the levels of non-compliance cannot be determined. In general there should be at least two levels of non-compliance identified.}</i></p>
<p>This requirement has been dropped from this standard.</p> <p>The revised standard does not include any specific references to a ‘7 day’ lead time for data provision. In the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p> <p>The data being addressed here is data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p> <p>The standards development process does not require more than one level of non-compliance.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>It is not clear whether the IA must supply this data to any requesting RA or just of the RA that has jurisdiction over the IA’s area. We propose that the IA should only have to supply this information to his RA. Other RA’s should contact the IA’s RA for the information.</p> <p>We suggest this requirement be changed similar to our comments provided on Requirement #2 under our response to question #13.</p>
<p>This requirement has been dropped from this standard.</p> <p>The intent of the similar requirements is to provide data to any RA that monitors an entity’s facilities.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>This is too vague – provide what data? Who is receiving and providing required data should also be clarified. Is this just tied to telemetry, or is it more broad than that? Depending on what data this is, 7 days may be too short.</p> <p>The industry will need to change its current business practices in order to comply with requirement</p>

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<p>This requirement has been dropped from this standard.</p> <p>The data being addressed here is data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p> <p>The data is being specified by the RA that monitors facilities – the entity with the facility or with facility status must supply the data.</p> <p>The revised standard does not include any specific references to a ‘7 day’ lead time for data provision. In the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p>	
<p>Kim Warren IMO #2</p>	<p>No</p> <p>Requirement “5” states that the RA has to notify other associated RA’s and TOP’s no less than 7 days prior to energization of new/changed facilities. If the Interchange Authority has the same time line requirement and gives the minimum notice (7 days) this does not allow time for the RA to complete their requirements of passing on the information to the associated RA’s and TOP’s. Therefore I suggest increasing the Interchange Authority time line to 10 days.</p>
<p>This requirement has been dropped from this standard.</p> <p>The revised standard does not include any specific references to a ‘7 day’ lead time for data provision. In the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p>	
<p>Ray Morella Joanne Borrell Ed Stein FirstEnergy #1,3,6  ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>Change the Requirement from ‘providing specified data no less than 7 days prior to the energization of new facilities’ to ‘providing specified data prior to the energization of new facilities’.</p> <p>Not sure if ‘shall provide data as specified by an (associated ) Reliability Coordinator’ means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the IA can request the data. The standard needs to be clear on which meaning is correct.</p> <p>Change ‘industry accepted format, timeframe, and technically accurate and complete’ to ‘industry accepted format, accurate and complete’. Timeframe is already specified in the standard. It doesn’t need to be repeated. Delete the description of ‘technically’.</p>
<p>This requirement was dropped from this standard.</p> <p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.</p> <p>Specific references to ‘energization of new facilities’ have been dropped from the revised standard.</p> <p>The standard has been revised to clarify that the entities must provide data to the entity (performing the RA function) with which it has a reliability relationship.</p> <p>As suggested, the standard was revised to omit the phrase, ‘industry accepted format’ and to omit the adjective, ‘technically.’ There is no difference between accurate data and technically accurate data.</p>	
<p><b>No – Comments indicating additional details needed in requirements</b></p>	
<p>Joseph Buch Madison #4</p>	<p>No</p> <p>See comments on question 26.</p> <p><i>{ The standard does not spell out the “data” required. There are certain key items which at a minimum are necessary to perform reliability analysis. These should be enumerated and a part of this standard. See further comments in questions 14 and 47.}</i></p>

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<p>There is another requirement in this standard that charges the RA with responsibility for prescribing what data is needed. NERC will not produce a standard list of data to be supplied, since the data needed varies from one RA to another RA.</p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?</p>
<p>This requirement was dropped from this standard. As suggested, the standard was revised to omit the adjective, 'technically.' There is no difference between accurate data and technically accurate data.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5</p>	<p>No It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.</p>
<p>This requirement was dropped from this standard. The IA does not have any facility data to provide to the RA. Interchange data is addressed in the Coordinate Interchange standard.</p>	
<p>Gregory Campoli NY ISO #2 David Kiguel Hydro One #1</p>	<p>No This requirement is unclear. There is confusion as to the type of data. We agree if we assume that this requirement is for operational/scheduling information for performing a reliability assessment for operations planning. This does not work for data being provided for the first time from new facilities such as engineering data.</p>
<p>This requirement was dropped from this standard. The IA does not have any facility data to provide to the RA. Interchange data used in conducting reliability assessments is addressed in the Coordinate Interchange standard.</p>	
<p>Alan Johnson Mirant #6</p>	<p>No Agree conceptually, but need some clarification as to what is meant by "...changes to existing facilities". What types of changes are intended here?</p>
<p>This requirement was dropped from this standard. The IA does not have any facility data to provide to the RA.</p>	
<p><b>No – Comments suggestion changing the scope of the requirement</b></p>	
<p>Bob Burkard NCMPA1 # 3,4,5</p>	<p>No Emergency changes to existing facilities should be exempted with a requirement to coordinate with the above entities.</p>
<p>This requirement was dropped from this standard. The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA. The RA may choose to address emergency changes in its data specification, but requiring such a provision is beyond the scope of this standard.</p>	
<p>Fred Frederick Vectren #3</p>	<p>No</p>
<p><b>Yes – Comments about 7 days</b></p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>Yes/No Seven days advanced notice may not be feasible for updates to real-time (EMS) systems due to the impact to operations during 'cut-over' activities. The time-frame requirement may vary widely depending on database requirements, support staffing, impact to real-time operations, etc. We believe the timing should be left to the RAs.</p>

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<p>This requirement was dropped from this standard.</p> <p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>Yes</p> <p>See comment in #18.</p> <p><i>{ Manitoba Hydro questions the 7 day period specified. Some processes would require significantly more lead time than that while some require less; how was the 7 day time chosen. The issue is one of supplying data on a timely basis. Isn't that covered by another requirement. }</i></p>
<p>This requirement was dropped from this standard.</p> <p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.</p>	
<p><b>Yes – comments about appropriateness of this requirement</b></p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>Yes</p> <p>See # 18 comments.</p> <p><i>{ A seven day lead time may not, in many cases, be sufficient lead time to incorporate new facilities or changes to existing facilities in models or perform revised analysis. There should also be a requirement to provide data in real time with measures related to timeliness and accuracy. }</i></p> <p>Also, is this requirement #7 necessary? What facilities, (lines, generators, etc.), will an Interchange Authority have that requires energization?</p>
<p>This requirement was dropped from this standard.</p>	
<p>Toni Timberman BPA #1</p>	<p>Yes</p> <p>The language "no less than 7 days prior to the energization of new facilities or changes to existing facilities" is not relevant to IA data, since the IA is not normally involved with new facilities and the data requested from a IA is very different than from the other functions.</p>
<p>This requirement was dropped from this standard.</p>	
<p><b>Yes – comments suggesting expansion of requirement</b></p>	
<p>Richard Schwarz PNSC #2</p>	<p>Yes</p> <p>This requirement should be for any data request, not just for new or revised facilities. Should pertain to all facilities. The timeframe should be specified by the RA in accordance with its own needs.</p>
<p>This requirement was dropped from this standard. The requirement that addresses the RA's data requests was modified to reflect this suggestion. The revised standard addresses all data the RA needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within interconnection reliability operating limits.</p>	

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Charles Yeung Reliant Energy #6 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Ed Riley CA ISO #2 James Stanton Calpine #5 Joe Minkstein PG&E #5 Karl Kohlrus CWL&P #5 Lee Westbrook Oncor #1 Mike Miller Southern Co #1 Stuart Goza TVA #1 William Smith Allegheny Pwr #1	Yes
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**23. Requirement 7 – Do you agree with these levels of non-compliance for this requirement?**

<p><b>Original Levels of Non-compliance</b></p> <ol style="list-style-type: none"> <li>1. Not Applicable</li> <li>2. Not Applicable</li> <li>3. Not Applicable</li> <li>4. Data for new/revised facilities was not provided as requested</li> </ol>
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<p><b>Revised Levels of Non-compliance: None</b></p>
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**Summary Consideration:**

Several commenters indicated that the IA does not have any facility data to provide to the RA that is needed for real time monitoring or analyses – other than the data already addressed in other standards. Consequently Requirement 7 was dropped from the revised standard.

Comments that provided specific suggestions for improvements to the levels of non-compliance have been considered for their application to Requirements 5, 8 and 9

<b>No – Comments restating that requirement is inappropriate</b>	
Francis Halpin BPA Bus Line #5,6	No IA's do not normally have the information referred to in the requirements.
Agreed. This requirement was dropped from the standard.	
FRCC 6-#1, 4-#2, 1-#2	No Can not comment on this as we believe the requirement for the IA is not accurate.
Agreed. This requirement was dropped from the standard.	
Sam Jones ERCOT #2	See comments to #22 above. { This Requirement makes no sense. The IA authorizes next-hour bilateral Transactions and Market dispatch that are ready for physical implementation. }
Agreed. This requirement was dropped from the standard.	
<b>No – Comments indicating addressing non-compliance is premature</b>	
Todd Lucas (6?) Southern Co #1	No Until numbers 18, 20, & 22 are resolved the levels of non-compliance cannot be determined.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
Gregory Campoli NY ISO #2	No It is premature to develop compliance levels at this time.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
Susan Morris	In general there should be at least two levels of non-compliance identified.

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SERC #2	
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p><b>No – Comments indicating more details needed</b></p>	
<p>Thomas Pruitt Duke #1 Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>See 22. <i>{The language is not clear enough. For example some might interpret the requirement to read differently than others (as follows) – A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.}</i>  <i>{The language is not clear enough. See number 18 comments, it is not apparent the types of data being referred to in this requirement. Clarification is needed to specify the required data – from testing, real-time operation, engineering specifications, manufacturer's specifications, etc.}</i>  <i>{Until numbers 18 and 20 are resolved (clarification of language) the levels of non-compliance cannot be determined. In general there should be at least two levels of non-compliance identified.}</i></p>
<p>This requirement has been dropped from this standard.  The revised standard does not include any specific references to a '7 day' lead time for data provision. In the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.  The data being addressed here is data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area conducted relative to operating within its reliability area's interconnection reliability operating limits.  The standards development process does not require more than one level of non-compliance.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No What if they provide the data, but it is 3 days prior to energization? Or they provide it 3 days after energization? Or 3 weeks after energization? What if they provide only partial data? Or only incorrect data? Are all these non-compliance events truly equal?</p>

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<p>This requirement has been dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn't have the data it needs to accurately assess the system with respect to its IROLs.</p>	
<p><b>No – Comments with specific wording recommendations</b></p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>Levels of non-compliance would be better if defined something like:</p> <ul style="list-style-type: none"> <li>(6 Data for new/revised facilities was provided less than seven days prior to energization.</li> <li>(6 Data for new/revised facilities was provided before one month after but not before energization.</li> <li>(6 Data for new/revised facilities was provided before three months but not before one month after energization.</li> <li>4. Data for new/revised facilities was not provided within three months after energization.</li> </ul>
<p>This requirement has been dropped from this standard.</p> <p>The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. The corresponding requirement for the RA to specify what data it needs was changed to allow each RA the flexibility to assign its own 'due date', so adopting these recommended levels of non-compliance is no longer appropriate.</p> <p>The result of all of these is the same – the RA doesn't have the data it needs to accurate assess the system.</p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>See comments for requirement 5</p> <p><i>{ I agree with the requirement, but I question the value of making a hard 7-day rule. Why not 14 days or 21 days???? }</i></p>
<p>This requirement has been dropped from this standard.</p> <p>In the revised standard, all references to '7 days' have been dropped. The revised standard requires the RA to specify the time frame for providing it with the data it needs.</p>	
<p>Karl Kohlrus CWL&amp;P #5</p>	<p>No</p> <p>There should be a reminder sent out if the data is not sent initially before going directly to Level 4.</p>
<p>This requirement has been dropped from this standard.</p> <p>Each entity must assume responsibility for meeting its own requirements. The suggestion that a reminder be sent out has not been adopted.</p>	
<p><b>No – Comments indicating # of levels of non-compliance need adjustments</b></p>	
<p>Alan Johnson Mirant #6</p>	<p>No</p> <p>Not sure that non-compliance should jump right to level 4</p>
<p>This requirement has been dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p>	
<p>Alan Boesch</p>	<p>The level of non-compliance does not seem appropriate. Starting at level one</p>

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NPPD #1	and then escalate up through the the different levels depending on how late it is seems to be more appropriate.
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p>	
Joseph Buch Madison #4	<p>No</p> <p>See comments on question 27.</p> <p><i>{ There is only 1 level of non-compliance, level 4 and no definition of the data required. If certain key items of "data" were defined as part of the standard and they were not provided, a level 4 non-compliance would be appropriate. If these items were provided, however they were only provided 2 days before energization a level 3 non-compliance might be appropriate. Similarly, if the data on the key items were provided 3 to 7 days before energization a level 2 non-compliance might be appropriate. See further comments in question 47.}</i></p>
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating within interconnection reliability operating limits.</p> <p>This standard will not define specifically what data must be provided. Data requirements vary from RA to RA and under the proposed standard, each RA must decide what data it needs and must specify that data.</p>	
George Bartlett Energy Svcs 1	<p>No</p> <p>There probably should be more than one level of non-compliance and not supplying requested data should not be the highest level of violation. The first level should be "Data for new/revised facilities not provided to TOPs and associated RAs when the data was . The second level should be "Data for new/revised facilities was not provided as requested". The fourth level of non-compliance should be "Data not supplied to TOPs or associated RAs resulted in SOL violations".</p>
<p>This requirement was dropped from this standard.</p> <p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>The result of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn't have the data it needs to accurately assess the system with respect to its IROLs. It would be very difficult to determine that the lack of data, by itself, resulted in operating outside an IROL – for this reason the suggestion was not implemented.</p>	
<p><b>No – Other Comments</b></p>	
Ed Riley CA ISO #2	<p>No</p> <p>The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	

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John Blazekovich Exelon #1,3,5,6 Fred Frederick Vectren #3 Albert M. DiCaprio MAAC #2 Tony Jankowski We-Energies #4 Richard Kafka Pepco #1	No
Richard Schwarz PNSC #2	Yes Should pertain to all facilities
<p><a href="#">This requirement was dropped from this standard.</a>  <a href="#">The standard was revised so that all references to 'new/revised facilities' were dropped.</a></p>	
Toni Timberman BPA #1	Yes delete new/revised facilities
<p><a href="#">This requirement was dropped from this standard.</a>  <a href="#">The standard was revised so that all references to 'new/revised facilities' were dropped.</a></p>	
Bob Burkard NCMPA1 # 3,4,5 Charles Yeung Reliant Energy #6 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Doug Hils Cinergy #1 ECAR Ops Pane #1 – 8 #5 – 1 #2 – 2 Ed Stein Firstenergy Sol #6 Gerald Rheault Manitoba #1,3,5,6 James Stanton Calpine #5 Joanne Borrell FirstEnergy Sol #3 Joe Minkstein PG&E #5 Kathleen Goodman ISO NE #2 Kim Warren IMO #2 Mike Miller Southern Co #1 Ray Morella FirstEnergy #1 Roman Carter So Co Gen 3,5,6 (6 members) Stuart Goza TVA #1 Tom Petrich (5) PG&E #1 Vern Colbert Dominion #1 William Smith Allegheny Pwr #1	Yes

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**24. Requirement 8 – Do you agree with this requirement and its associated performance/outcome and measure/s?**

**Original Requirement**

The Transmission Owner (TOW) shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

**Measure(s)**

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

**Outcome(s)**

The TOW shall provide data, as requested, to its (associated) RA and/or TOP.

**Revised Requirement**

Each entity performing one of the following functions shall provide data, as specified, to the reliability authority(ies) with which it has a reliability relationship.

- Generator operator
- Generator owner
- Reliability authority
- Transmission operator
- Transmission owner

**Measure(s)**

The entity responsible shall provide data, as specified, to the requesting reliability authority, within the time frame specified, in the mutually agreed upon format.

**Summary Consideration:**

Based on the comments submitted, this requirement has been revised to eliminate the requirement that data be provided to the TOP. Clarifying language was added to indicate which RA should be provided the data. The '7 days prior to energization' phrase has been replaced with language that indicates data must be provided as specified by the RA and within the timeframe specified.

The corresponding requirement for the RA was modified to indicate that the RA must specify what data it needs and must distribute the specification to entities with facilities monitored by the RA and to entities that provide facility status to the RA.

The term, 'technically accurate' was modified to say, 'accurate.'

The Outcomes section was redundant and was eliminated. The term, 'industry accepted format' was replaced with 'mutually agreed upon format' based on the industry's comments.

This requirement was combined with the similar requirements that indicated the RA, TOP, Generator Operator and Generator Owner must provide data. The revised requirement is called, 'Data Provision'.

**No – Comments indicating requirement is inappropriate**

Tony Jankowski We-Energies #4	No The RA/TOP should already have all required data as stated in Requirement #3
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	and Requirement #4.
Requirements 3 and 4 require that the RA/TOP specify what data is needed. This requirement is aimed at ensuring that the needed data is provided.	
Compliance Managers	The requirement for data provision/collection/timing and model development, and related compliance measurements and levels of non-compliance should be dealt with through the present working groups that are doing this work.
The SAR for this standard includes the following:	
<ul style="list-style-type: none"> <li>Collect data needed for performing real time reliability analyses</li> </ul>	
No – Comments about 7 days	
George Bartlett Entergy Svcs 1	No The TOW should provide data when requested, not 7 days prior to energization. Please delete the phrase “no less than 7 days prior to the energization of new facilities or changes to existing facilities” from both the Requirements and the Measures.
The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.	
Doug Hils Cinergy #1	No In general I agree with the requirement. Model updates are extremely necessary, however there may be times that temporary changes are made to get some equipment back in service by reconfiguring the system. Would there be a violation if that equipment was placed back in service before the 7 day notification took place?
The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.	
Lee Xanthakos SCE&G #1	See comments for requirement 5 <i>{ I agree with the requirement, but I question the value of making a hard 7-day rule. Why not 14 days or 21 days???? }</i>
The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.	
Bob Burkard NCMPA1 # 3,4,5	No Emergency changes to existing facilities should be exempted with a requirement to coordinate with the above entities.
The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA. The RA may choose to address emergency changes in its data specification, but requiring such a provision is beyond the scope of this standard.	
Alan Boesch NPPD #1	No Depending on the type of data seven days prior to energization may be a unrealistic expectation.
The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.	
Vern Colbert Dominion #1	No Seven days is not enough time.

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<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>No Again, more time such as 1 month is more appropriate.</p>
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>No 7 days is too short a period for evaluation of system impacts.</p>
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the data must be provided within the timeframe specified by the RA.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>No See #18 comments. <i>{ A seven day lead time may not, in many cases, be sufficient lead time to incorporate new facilities or changes to existing facilities in models or perform revised analysis. There should also be a requirement to provide data in real time with measures related to timeliness and accuracy. }</i></p>
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA. The RA is expected to stipulate different time frames for providing different types of data.</p>	
<p><b>No – Comments asking for an expansion of the requirements</b></p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>No This requirement should not just focus on new facilities or changes to existing facilities. As we have stated for the TOP, the TOW should have requirements for providing the data to the RA as specified by the RA and in the timeframe the RA needs.</p>
<p>Specific references to 'new or changed facilities' have been removed from this standard. The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided as specified and within the timeframe specified by the RA.</p>	
<p><b>No – Comments asking for greater clarity in the requirements</b></p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No It is not clear whether the TOW must supply this data to any requesting RA or just to the RA that has jurisdiction over the TOW's area. We propose that the TOW should only have to supply this information to his RA. Other RA's should contact the TOW's RA for the information.  Why 7 days? If the intent is to ensure the requestor knows about the new facilities and can update their model before energization of the new facilities, then more than 7 days notice should be required. If the intent is to ensure the requestor is receiving the real-time data associated with the new facilities, then 7 days may be adequate.  We suggest this requirement be changed similar to our comments provided on Requirement #2 under our response to question #13.  <i>{ If the requirement was changed to the TOP providing real time data, equipment limits, and model updates to their RA as specified by their RA, then the levels of</i></p>

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	<p><i>non-compliance could be:</i></p> <p>6 <i>Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for up to 24 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</i></p> <p>6 <i>Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period of 24-36 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</i></p> <p>6 <i>Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period of 36-48 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</i></p> <p>6 <i>Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period greater than 48 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant), or</i></p> <p><i>the TOP did not station personnel at the Station or Plant as directed by the RA to provide this data while telemetry was being restored, or the TOP did not provide equipment limits as requested, or The TOP did not provide modeling update information until after the energization of new facilities.</i></p> <p><i>Note: the idea is that depending on system conditions, the RA may be able to rely on their previous operational planning analysis (next day analysis) for a day or so. However, if system conditions warrant, the RA should have the authority to direct the TOP to man the station and if the TOP refuses that should be considered a significant infraction.</i></p> <p><i>Need to define “surrogate value” and “surrogate data”.</i>}</p>
	<p>This requirement was revised to clarify that the TOP must provide this data to the RA with which it has a reliability relationship – this would be the RA that has authority over the TOP.</p> <p>The suggested levels of non-compliance were not adopted because they would be very difficult to objectively measure. The revised standard does require that the RA’s data specification address the data provision process to use when automated real time system operating data is unavailable. This should help ensure that there is a process in place to provide data to the RA when there is a loss of telemetry.</p>
<p>Lloyd Linke MAPP #2</p>	<p>This is too vague – provide what data? Who is receiving and providing required data should also be clarified. Is this just tied to telemetry, or is it more broad than that? Depending on what data this is, 7 days may be too short.</p> <p>The industry will need to change its current business practices in order to comply with requirement.</p>
	<p>There is a separate requirement in this standard that addresses the type of data to provide to the RA. Please reference the revised requirement now called, “Data Specification &amp; Collection.” The data being addressed here is data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p> <p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided as specified and within the timeframe specified by the RA.</p>
<p>Guy Zito (See List)</p>	<p>No</p>

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<p>NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer’s data, etc.</p>
<p>There is a separate requirement in this standard that addresses the type of data to provide to the RA. Please reference the revised requirement now called, “Data Specification &amp; Collection.”</p> <p>The data being addressed here is data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No This requirement is unclear. There is confusion as to the type of data. We agree if we assume that this requirement is for operational/scheduling information for performing a reliability assessment for operations planning. This does not work for data being provided for the first time from new facilities such as engineering data.</p>
<p>There is a separate requirement in this standard that addresses the type of data to provide to the RA. Please reference the revised requirement now called, “Data Specification &amp; Collection.”</p> <p>The data being addressed here is data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p>	
<p>Alan Johnson Mirant #6</p>	<p>No Agree conceptually, but need some clarification as to what is meant by “...changes to existing facilities”. What types of changes are intended here?</p>
<p>References to ‘changes to facilities’ have been dropped from the revised standard. The requirement for the RA has been clarified to indicate that the RA must specify the data it needs from entities with facilities monitored by the RA and from entities that provide facility status to the RA.</p> <p>The data being addressed here is data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p>	
<p>Thomas Pruitt Duke #1 Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No See 22. <i>{The language is not clear enough. For example some might interpret the requirement to read differently than others (as follows) – A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.}</i>  <i>{The language is not clear enough. See number 18 comments, it is not apparent the types of data being referred to in this requirement. Clarification is needed to specify the required data – from testing, real-time operation, engineering specifications, manufacturer’s specifications, etc.}</i>  <i>{Until numbers 18 and 20 are resolved (clarification of language) the levels of non-compliance cannot be determined. In general there should be at least two levels of non-compliance identified.}</i></p>

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<p>The revised standard does not include any specific references to a ‘7 day’ lead time for data provision. In the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p> <p>The data being addressed here is data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p> <p>The standards development process does not require more than one level of non-compliance.</p>	
Joseph Buch Madison #4	<p>No</p> <p>See comments on question 26.</p> <p><i>{ The standard does not spell out the “data” required. There are certain key items which at a minimum are necessary to perform reliability analysis. These should be enumerated and a part of this standard. See further comments in questions 14 and 47.}</i></p>
<p>There is a separate requirement in this standard that addresses the type of data to provide to the RA. Please reference the revised requirement now called, “Data Specification &amp; Collection.”</p> <p>The data being addressed here is data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p> <p>However, this standard will not include a standard list of data to be supplied, since the data needed varies from one RA to another RA.</p>	
<p><b>No – Other Comments</b></p>	
Sam Jones ERCOT #2 OLDTF (9?) 6 - #2 1 - #1,5	<p>No</p> <p>The timing of this Requirement conflicts with Requirement 5. This is, the seven days does not leave the RA any time to complete their obligations under Requirement 5.</p>
<p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
Kim Warren IMO #2	<p>No</p> <p>Requirement “5” states that the RA has to notify other associated RA’s and TOP’s no less than 7 days prior to energization of new/changed facilities. If the Transmission Owner has the same time line requirement and gives the minimum notice (7 days) this does not allow time for the RA to complete their requirements of passing on the information to the associated RA’s and TOP’s. Therefore I suggest increasing the Transmission Owners time line to 10 days.</p>
<p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p><b>No – Mix of comments</b></p>	
Peter Burke ATC #1	<p>No</p> <p>Same responses as provided to Questions 18 &amp; 20.</p> <p><i>{ Three concerns with this requirement:</i></p> <ul style="list-style-type: none"> <li><i>(6 TOP should not make requests, per response to question #16. Rather, the RA should make the requests and then hand that data down to the TOP.</i></li> <li><i>(6 This requirement and the others like it for the BA, IA, Generator and Transmission Owner (TOW) all state that the data should be supplied “as requested”. That is needed but there should also be a requirement that RAs, IAs, BAs, Generators and TOWs should supply this information to one</i></li> </ul>

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	<p><i>another, without a request, if the data has to do with major/critical facilities (i.e. an entity may not realize they should make a request.)</i></p> <p>(6) <i>The requirement directs that data must be provided no less than 7 days in advance. Some new facilities can be significant so that 7 days in advance is not enough time for receiving data. In some cases, data for significant new facilities would be needed a season or a year in advance.</i></p> <p>(6) <i>Estimated or approximate data should be acceptable prior to energization. "As built" data would be provided when available or when required telemetry is complete.}</i></p> <p><i>{ Same concerns as expressed in reply to Question 18. One entity may not know it should request information from another entity. There should also be a requirement on the entity where the change is occurring to provide that data, unrequested, to the other entities if it involves major/critical facilities.}</i></p> <p>Some measure needs to be in place to make sure that the RA and TOP are notified in a timely manner that system changes are planned. This would be a challenge to meet initially as the processes are not in place to make this work well now.</p>
<p>The standard was revised to eliminate the requirement that the data be provided to the TOP.</p> <p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p> <p>The revised standard eliminates the need for the RA to send out individual data requests – instead the RA must develop and distribute a data specification. Entities with facilities monitored by the RA and entities that provide the RA with facility status must provide data as specified.</p> <p>Specific references to 'facility changes ' have been removed from this standard.</p> <p>There is a separate requirement in this standard that addresses the type of data to be provided to the RA.</p>	
<p>Ray Morella Joanne Borrell Ed Stein FirstEnergy #1, 3, 6 ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>(1) Change the Requirement from 'providing specified data no less than 7 days prior to the energization of new facilities' to 'providing specified data prior to the energization of new facilities'.</p> <p>(2) not sure if 'shall provide data as specified by an (associated ) Reliability Coordinator' means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the TOP can request the data. The standard needs to be clear on which meaning is correct.</p> <p>(3) Change 'industry accepted format, timeframe, and technically accurate and complete' to 'industry accepted format, accurate and complete'. Timeframe is already specified in the standard. It doesn't need to be repeated. Delete the description of 'technically'.</p>
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p> <p>Specific references to 'facilities' have been dropped from the revised standard.</p> <p>The standard has been revised to clarify that the TOP must provide data to the RA with which it has a reliability relationship. The TOP has one RA that it reports to – and the TOP must provide its data to this RA.</p> <p>As suggested, the standard was revised to omit the adjective, 'technically.' There is no difference between accurate data and technically accurate data.</p>	
<p>ECAR Ops Panel</p>	<p>No</p>

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<p>#1 – 8 #5 – 1 #2 – 2</p>	<p>I can just see someone delaying the installation of a needed facility for 7 days because they didn't want to get a non-compliance. There was not complete agreement on this comment. Seven companies voted in favor of this comment. One company voted against this comment.</p> <p>What is the difference between accurate data and technically accurate data? Is technically accurate data better than accurate data? Is technically accurate data different than accurate data?</p>
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p> <p>The adjective, 'technically' has been deleted from the revised standard. There is no difference between accurate data and technically accurate data.</p>	
<p>Fred Frederick Vectren #3</p>	<p>No</p>
<p><b>Yes – Comments on 7 days</b></p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>Yes/No</p> <p>Seven days advanced notice may not be feasible for updates to real-time (EMS) systems due to the impact to operations during 'cut-over' activities. The time-frame requirement may vary widely depending on database requirements, support staffing, impact to real-time operations, etc. We believe the timing should be left to the RAs.</p>
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>Yes</p> <p>See comment in #18</p> <p><i>{ Manitoba Hydro questions the 7 day period specified. Some processes would require significantly more lead time than that while some require less; how was the 7 day time chosen. The issue is one of supplying data on a timely basis. Isn't that covered by another requirement.}</i></p>
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the specified data must be provided within the timeframe specified by the RA.</p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>Yes</p> <p>Estimated data that describes equipment should be provided several months in advance of energization so that operational planning studies (12 months in advance) can be performed. Estimated data is probably adequate for the equipment energization provided as-built data is provided within a reasonable amount of time. We suggest one month after energization as a reasonable time frame for providing as-built data. "Estimated" versus "as-built" data should be defined.</p>
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p><b>Yes – Comments on need to expand requirement</b></p>	
<p>Toni Timberman BPA #1</p>	<p>Yes</p> <p>Data provision should not be limited to "the energization of new facilities or changes to existing facilities" and the timeline should be set by the data requestor.</p>
<p>Specific references to 'changes to facilities' have been dropped from the revised standard.</p>	

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Richard Schwarz PNSC #2	Yes This requirement should be for any data request, not just for new or revised facilities. Time frame to be specified by the RA according to its own needs.
<p>Specific references to 'changes to facilities' have been dropped from the revised standard.                  The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
James Stanton Calpine #5 Ed Riley CA ISO #2 Dilip Mahendra SMUD #1 Darrel Richardson Illinois Power #1, 3 Charles Yeung Reliant Energy #6 Albert M. DiCaprio MAAC #2 Joe Minkstein PG&E #5 Karl Kohlrus CWL&P #5 Mike Miller Southern Co #1 Lee Westbrook Oncor #1 Richard Kafka Pepco #1 William Smith Allegheny Pwr #1 Tom Petrich (5) PG&E #1 Stuart Goza TVA #1	Yes

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**25. Requirement 8 – Do you agree with these levels of non-compliance for this requirement?**

<b>Original Levels of Non-compliance</b>	
1.	Not Applicable
2.	Not Applicable
3.	Not Applicable
4.	Data for new/revised facilities was not provided as requested

<b>Revised Levels of Non-compliance</b>	
1.	Not Applicable
2.	Not Applicable
3.	Not Applicable
4.	Data not provided to the reliability authority as specified

**Summary Consideration:**

The fourth level of non-compliance was modified to conform with the language in the revised requirement. The reference to ‘new/revised facilities’ was dropped – the revised requirement addresses the data the RA needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area’s interconnection reliability operating limits.

Several commenters suggested adding more levels of non-compliance – to give partial credit for having the data a little incorrect, or a little late, in an almost acceptable format, etc. The result of all of these is the same – the RA doesn’t have the data it needs to accurately assess the system. There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA’s ability to monitor and assess the status of the interconnection with respect to operating without exceeding any of its interconnection reliability operating limits. For these reasons, additional levels of non-compliance were not added. The industry will be asked to comment on this decision in the next posting of this standard.

<b>No – Other Comments</b>	
Ed Riley CA ISO #2	No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can’t be objectively measured.	
<b>No – Levels of non-compliance need adjustments</b>	
Doug Hils Cinergy #1	No Model updates are extremely necessary, however there may be times that temporary changes are made to get some equipment back in service by reconfiguring the system. Would there be a violation if that equipment was placed back in service before the 7 day notification took place?
The standard has been revised to remove the firm ‘7 day’ requirement. With the revised standard, the RA must specify an acceptable time frame for providing the data.	
David Kiguel	No

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Hydro One #1	It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.
<p>There is a separate requirement in this standard that addresses the type of data to be provided to the RA. Please reference the revised requirement now called, "Data Specification &amp; Collection." This requirement clarifies that the data to be provided to the RA is data the RA needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.</p>	
George Bartlett Entergy Svcs 1	<p>No</p> <p>There probably should be more than one level of non-compliance and not supplying requested data should not be the highest level of violation. The first level should be "Data for new/revised facilities not provided to TOPs and associated RAs when the data was . The second level should be "Data for new/revised facilities was not provided as requested". The fourth level of non-compliance should be "Data not supplied to TOPs or associated RAs resulted in SOL violations".</p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn't have the data it needs to accurately assess the system with respect to its IROLs. It would be very difficult to determine that the lack of data, by itself, resulted in operating outside an IROL – for this reason the suggestion was not implemented.</p>	
Francis Halpin BPA Bus Line #5,6	<p>No</p> <p>There should be levels of compliance based upon notification and calaboration with affected parties</p>
<p>These levels of non-compliance must be linked to this requirement. This requirement does not have a notification component. Levels of non-compliance for notification and collaboration would be more appropriate for the requirement that address specifying what data is needed.</p>	
Todd Lucas (6?) Southern Co #1	<p>No</p> <p>Until numbers 18, 20, 22 &amp; 24 are resolved the levels of non-compliance cannot be determined.</p>
<p>The requirements have been modified and the levels of non-compliance have been adjusted to conform with these modifications.</p>	
<p>Thomas Pruitt Duke #1</p> <p>Robert Reed TS (See List)</p> <p>Susan Morris SERC #2</p>	<p>No</p> <p>See 22.</p> <p><i>{The language is not clear enough. For example some might interpret the requirement to read differently than others (as follows) – A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.}</i></p> <p><i>{ it is not apparent the types of data being referred to in this requirement. Clarification is needed to specify the required data – from testing, real-time operation, engineering specifications, manufacturer's specifications, etc.}</i></p> <p><i>{Until numbers 18 and 20 are resolved (clarification of language) the levels of non-compliance cannot be determined. In general there should be at least two levels of non-compliance identified.}</i></p>

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<p>The revised standard does not include any specific references to a '7 day' lead time for data provision. In the revised standard each RA must specify when it needs data and the entities with the data are required to provide the data within the time frame specified by the RA.</p> <p>The data being addressed here is data the RA needs to support real time monitoring, operational planning analyses and real time assessments of its reliability area conducted relative to operating within its reliability area's interconnection reliability operating limits.</p> <p>The standards development process does not require more than one level of non-compliance.</p>	
<p>Sam Jones ERCOT #2</p>	<p>See comments to #24 above.</p> <p><i>{The timing of this Requirement conflicts with Requirement 5. This is, the seven days does not leave the RA any time to complete their obligations under Requirement 5.}</i></p>
<p>The standard has been revised to remove the firm '7 day' requirement. Instead, the revised standard requires that the RA stipulate when the data must be provided.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>What if they provide the data, but it is 3 days prior to energization? Or they provide it 3 days after energization? Or 3 weeks after energization? What if they provide only partial data? Or only incorrect data? Are all these non-compliance events truly equal?</p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn't have the data it needs to accurately assess the system with respect to its IROLs.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>Levels of non-compliance would be better if defined something like:</p> <ul style="list-style-type: none"> <li>(6 Data for new/revised facilities was provided less than seven days prior to energization.</li> <li>(6 Data for new/revised facilities was provided before one month after but not before energization.</li> <li>(6 Data for new/revised facilities was provided before three months but not before one month after energization.</li> <li>(6 Data for new/revised facilities was not provided within three months after energization.</li> </ul> <p>There's no desire for penalties that dis-incent people from energizing new equipment but there's need for penalties that encourage early reporting. Not sure that 7 days will be needed once systems are in palce and incremental updates are being performed. There may also be a need for determining the impact of the facility addition to the system before determining penalties. (Should a new 200 MW generator going into service be penalized the same as a distribution tap serving 5 MWs of load? Probably not but this standard as written does not differentiate between the two.)</p>

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<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. The corresponding requirement for the RA to specify what data it needs was changed to allow each RA the flexibility to assign its own 'due date', so adopting these recommended levels of non-compliance is no longer appropriate.</p> <p>The result of all of these is the same – the RA doesn't have the data it needs to accurately assess the system.</p> <p>The revised standard clarifies that the RA must specify and collect the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.</p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>See comments for requirement 5</p> <p><i>{ Seems like there should be more than one level of non-compliance. What if the data was incomplete for example? Shouldn't merit some non-compliance penalty? }</i></p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p>	
<p>Karl Kohlrus CWL&amp;P #5</p>	<p>No</p> <p>There should be a reminder sent out if the data is not sent initially before going directly to Level 4.</p>
<p>Each entity must assume responsibility for meeting its own requirements. The suggestion that a reminder be sent out has not been adopted.</p>	
<p>Joseph Buch Madison #4</p>	<p>No</p> <p>See comments on question 27.</p> <p><i>{ There is only 1 level of non-compliance, level 4 and no definition of the data required. If certain key items of "data" were defined as part of the standard and they were not provided, a level 4 non-compliance would be appropriate. If these items were provided, however they were only provided 2 days before energization a level 3 non-compliance might be appropriate. Similarly, if the data on the key items were provided 3 to 7 days before energization a level 2 non-compliance might be appropriate. See further comments in question 47. }</i></p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>This standard will not define specifically what data must be provided. Data requirements vary from RA to RA and under the proposed standard, each RA must decide what data it needs and must request that data.</p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>No</p> <p>Level of non-compliance should be tied to the impact of changes to the system. As stated the level of non-compliance is equal for major and minor changes in transmission system configuration, levels of non-compliance should recognize the difference.</p> <p>Non compliance should be tied to the standard time frame for supplying data.</p> <p>Data maintenance is an on-going activity, the drafting team should recognize and address data maintenance and compliance implementation.</p>

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<p>This standard is only addressing a subset of the data that must be exchanged between entities. There were many commenters who objected to a standard time frame for supplying data, and that requirement has been modified to allow the RA to identify the time frame for supplying data. This should allow each RA to identify a time frame that is appropriate.</p> <p>The standard was revised to shift the focus from data relative to new or changed facilities to all data the RA needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5</p>	<p>No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No It is premature to develop compliance levels at this time.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>Alan Boesch NPPD #1</p>	<p>No The level of non-compliance does not seem appropriate. Starting at level one and then escalate up through the the different levels depending on how late it is seems to be more appropriate.</p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p>	
<p>Tony Jankowski We-Energies #4 Fred Frederick Vectren #3</p>	<p>No</p>
<p>Richard Schwarz PNSC #2</p>	<p>Yes Should pertain to all facilities</p>
<p>Agreed – and this suggestion was adopted and is reflected in the revised standard. The data can be any data that is requested by the RA that is needed to support real time monitoring and analyses relative to the IROL's under the RA's control.</p>	
<p>Toni Timberman BPA #1</p>	<p>Yes delete "for new/revised facilities"</p>
<p>This suggestion has been adopted and is reflected in the revised standard.</p>	

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<p>Alan Johnson Mirant #6          Albert M. DiCaprio MAAC #2          Bob Burkard NCMAPA1 # 3,4,5          Charles Yeung Reliant Energy #6          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2          Ed Stein Firstenergy Sol #6          Gerald Rheault Manitoba #1,3,5,6          James Stanton Calpine #5          Joanne Borrell FirstEnergy Sol #3          Joe Minkstein PG&amp;E #5          Kathleen Goodman ISO NE #2          Kim Warren IMO #2          Mike Miller Southern Co #1          Ray Morella FirstEnergy #1          Richard Kafka Pepco #1          Roman Carter So Co Gen 3,5,6 (6 members)          Stuart Goza TVA #1          Tom Petrich (5) PG&amp;E #1          Vern Colbert Dominion #1          William Smith Allegheny Pwr #1</p>	<p>Yes</p>
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### 26. Requirement 9 – Do you agree with this requirement and its associated performance/outcome and measure/s?

#### Original Requirement

The Generator Owner shall provide data, as specified by an (associated) Reliability Authority (RA) and/or Transmission Operator (TOP), no less than 7 days prior to the energization of new facilities or changes to existing facilities

#### Measure(s)

Provide specified data, as requested (industry accepted format, timeframe, and technically accurate and complete), to the requesting RA or TOP, no less than 7 days prior to the energization of new facilities or changes to existing facilities.

#### Outcome(s)

The Generator Owner shall provide data, as requested, to its (associated) RA and/or TOP.

#### Revised Requirement

Each entity performing one of the following functions shall provide data, as specified, to the reliability authority(ies) with which it has a reliability relationship.

- Generator operator
- Generator owner
- Reliability authority
- Transmission operator
- Transmission owner
- Measure(s)

The entity responsible shall provide data, as specified, to the requesting reliability authority, within the time frame specified, in the mutually agreed upon format.

#### Summary Consideration:

Based on the comments submitted, this requirement has been revised to eliminate the requirement that data be provided to the TOP. Clarifying language was added to indicate which RA should be provided the data. The '7 days prior to energization' phrase has been replaced with language that indicates data must be provided as specified by the RA and within the timeframe specified.

The corresponding requirement for the RA was modified to indicate that the RA must specify what data it needs and must distribute the specification to entities with facilities monitored by the RA and to entities that provide facility status to the RA.

The term, 'technically accurate' was modified to say, 'accurate.'

The Outcomes section was redundant and was eliminated.

The term, 'industry accepted format' was replaced with 'mutually agreed upon format' based on the industry's comments.

This requirement was combined with the similar requirements that indicated the RA and Generator Operator, Transmission Operator and Transmission Owner must provide data. The revised requirement is called, 'Data Provision'.

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<b>No – Comments about 7 days</b>	
Bob Burkard NCMPA1 # 3,4,5	No Emergency changes to existing facilities should be exempted with a requirement to coordinate with the above entities.
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA. The RA may choose to address emergency changes in its data specification, but requiring such a provision is beyond the scope of this standard.	
Alan Boesch NPPD #1	No Depending on the type of data seven days prior to energization may be a unrealistic expectation.
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.	
Roman Carter So Co Gen 3,5,6 (6 members)	No More time such as 1 month is more appropriate.
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.	
Vern Colbert Dominion #1	No Seven days is not enough time.
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.	
George Bartlett Entergy Svcs 1	No The Generator Owner should provide data when requested, not 7 days prior to energization. Please delete the phrase "no less than 7 days prior to the energization of new facilities or changes to existing facilities" from both the Requirements and the Measures.
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA. This was deleted from both the requirement and the associated measures as suggested.	
Francis Halpin BPA Bus Line #5,6	No Is 7 days the appropriate time frame for data submittal?? Does it allow sufficient time for proper analysis of the impact on the system? Seems like the data needs to be submitted in the time frame of weeks before energization in order to do system studies. Six months may be required, in some cases at least.
The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.	
<b>No – Comments indicating additional clarity is needed</b>	
Joseph Buch Madison #4	No The standard does not spell out the "data" required. There are certain key items which at a minimum are necessary to perform reliability analysis. These should be enumerated and a part of this standard. See further comments in questions 14

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	<p>and 47.</p> <p><i>{ The “data” that is to be requested is not defined. As part of this standard one should be able to initially define a handful of key data elements that are required. These key elements would include the minimum information required to support reliability analyses. See question 47 for additional comments.}</i></p> <p><i>{ This standard requires generator owners to supply data as requested to the requesting RA or TOP no less than 7 days prior to energization of new facilities or changes to existing facilities with a level 4 non-compliance if this data is not provided. This is not acceptable. The standard does not spell out the data required, it is left up to the RA or TOP to determine. Some data such as winter ratings is not crucial to system operation and associated level 4 non-compliance along with the sanctions for this level of non-compliance is simply not appropriate. What may be acceptable is to classify non-compliance with this standard as written as level 1. A future revision to this standard including an itemized listing of the specified data could then be developed along with appropriate levels of non-compliance. For example, generator data for dynamic stability provided between 5 and 7 days before energization could be given a level 1 non-compliance.}</i></p>
<p>There is a separate requirement in this standard that addresses the type of data to be provided to the RA. Please reference the revised requirement now called, “Data Specification &amp; Collection.” This requirement clarifies that the RA is collecting the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p> <p>This standard will not include a standard list of data to be supplied, since the data needed varies from one RA to another RA.</p> <p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>This is too vague – provide what data? Who is receiving and providing required data should also be clarified. Is this just tied to telemetry, or is it more broad than that? Depending on what data this is, 7 days may be too short.</p> <p>The industry will need to change its current business practices in order to comply with requirement.</p>
<p>There is a separate requirement in this standard that addresses the type of data to be provided to the RA. Please reference the revised requirement now called, “Data Specification &amp; Collection.” This requirement clarifies that the RA is collecting the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p> <p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p>James Stanton Calpine #5</p>	<p>No</p> <p>What kinds of “changes” to facilities are we talking about? If this is defined somewhere else it should be included here. If it is not defined, it should be.</p>
<p>Specific references to ‘changes to facilities’ have been removed from this standard.</p> <p>There is a separate requirement in this standard that addresses the type of data to be provided to the RA. Please reference the revised requirement now called, “Data Specification &amp; Collection.” This requirement clarifies that the RA is collecting the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area’s interconnection reliability operating limits.</p> <p>This standard will not include a standard list of data to be supplied, since the data needed varies from one RA to another RA.</p>	

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<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5</p>	<p>No It is not clear what type of data is being referred to in this requirement and clarification is needed if it is data derived from testing or some realtime operation or if it is engineering data, manufacturer's data, etc.</p>
<p>There is a separate requirement in this standard that addresses the type of data to be provided to the RA. Please reference the revised requirement now called, "Data Specification &amp; Collection." This requirement clarifies that the RA is collecting the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.</p>	
<p>David Kiguel Hydro One #1</p>	<p>No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No This requirement is unclear. There is confusion as to the type of data. We agree if we assume that this requirement is for operational/scheduling information for performing a reliability assessment for operations planning. This does not work for data being provided for the first time from new facilities such as engineering data.</p>
<p>There is a separate requirement in this standard that addresses the type of data to be provided to the RA. Please reference the revised requirement now called, "Data Specification &amp; Collection." This requirement clarifies that the RA is collecting the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.</p>	
<p>Alan Johnson Mirant #6</p>	<p>No Agree conceptually, but need some clarification as to what is meant by "...changes to existing facilities". What types of changes are intended here?</p>
<p>Specific references to 'changes to existing facilities' have been removed from this standard. There is a separate requirement in this standard that addresses the type of data to be provided to the RA. Please reference the revised requirement now called, "Data Specification &amp; Collection." This requirement clarifies that the RA is collecting the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.</p>	
<p>Susan Morris SERC #2 Thomas Pruitt Duke #1 Todd Lucas (6?) Southern Co #1 Robert Reed TS (See List)</p>	<p>No Clarification language is necessary. Same as 18, 20, 21, 22 above. <i>{The language is not clear enough. For example some might interpret the requirement to read differently than others (as follows) – A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.}</i> <i>{The language is not clear enough. See number 18 comments, it is not apparent the types of data being referred to in this requirement. Clarification is needed to specify the required data – from testing, real-time operation, engineering specifications, manufacturer's specifications, etc.}</i> <i>{Until numbers 18 and 20 are resolved (clarification of language) the levels of non-compliance cannot be determined. In general there should be at least two levels</i></p>

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	<i>of non-compliance identified.}</i>
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that the requested data must be provided within the timeframe specified by the RA.</p> <p>There is a separate requirement in this standard that addresses the type of data to be provided to the RA. Please reference the revised requirement now called, "Data Specification &amp; Collection." This requirement clarifies that the RA is collecting the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.</p> <p>The standards development process does not require more than one level of non-compliance.</p>	
Roger Green Southern Co #5	<p>Cannot properly evaluate until data requirements are specified.</p> <p>Is it practical for all parties to meet the 7 day data turn around requirements (see Requirements 5-9)? The common time frame indicates the data may have to be submitted by the facility owner to all parties.</p>
<p>There is a separate requirement in this standard that addresses the type of data to be provided to the RA. Please reference the revised requirement now called, "Data Specification &amp; Collection." This requirement clarifies that the RA is collecting the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.</p> <p>This standard will not include a standard list of data to be supplied, since the data needed varies from one RA to another RA.</p> <p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p><b>No – Comments indicating expansion of requirement is needed</b></p>	
FRCC 6-#1, 4-#2, 1-#2	<p>No</p> <p>This requirement should not just focus on new facilities or changes to existing facilities. As we have stated for the TOP, the generation owner should have requirements for providing the data to the RA as specified by the RA and in the timeframe the RA needs.</p>
<p>These suggestions were adopted and are reflected in the revised standard.</p>	
<p><b>No – Other comments</b></p>	
Compliance Managers	<p>The requirement for data provision/collection/timing and model development, and related compliance measurements and levels of non-compliance should be dealt with through the present working groups that are doing this work.</p>
<p>The SAR for this standard includes the following:</p> <ul style="list-style-type: none"> <li>Collect data needed for performing real time reliability analyses</li> </ul>	
Sam Jones ERCOT #2 OLDTF (9?) 6 - #2 1 - #1,5	<p>No</p> <p>The timing of this requirement conflicts with Requirement 5. That is the seven days does not leave the RA any time to complete their obligations under requirement 5.</p>
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
Tony Jankowski We-Energies #4	<p>No</p> <p>The RA/TOP should already have all required data as stated in Requirement #3 and Requirement #4.</p>

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<p>Requirements 3 and 4 require that the RA/TOP specify what data is needed. This requirement is aimed at ensuring that the requested data is provided.</p>	
<p>Kim Warren IMO #2</p>	<p>No</p> <p>Requirement “5” states that the RA has to notify other associated RA’s and TOP’s no less than 7 days prior to energization of new/changed facilities. If the Generator Owner has the same time line requirement and gives the minimum notice (7 days) this does not allow time for the RA to complete their requirements of passing on the information to the associated RA’s and TOP’s. Therefore I suggest increasing the Generator Owners time line to 10 days.</p>
<p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p>No – Mix of comments</p>	
<p>Ray Morella Ed Stein Joanne Borrell FirstEnergy #1,3,6  ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>(1) Change the Requirement from ‘providing specified data no less than 7 days prior to the energization of new facilities’ to ‘providing specified data prior to the energization of new facilities’.</p> <p>(2) I’m not sure if ‘shall provide data as specified by an (associated ) Reliability Coordinator’ means that any Reliability Coordinator can request the data or that only the Reliability Coordinator that has jurisdiction over the area operated by the Generation Owner can request the data. The standard needs to be clear on which meaning is correct.</p> <p>(3) Change ‘industry accepted format, timeframe, and technically accurate and complete’ to ‘industry accepted format, accurate and complete’. Timeframe is already specified in the standard. It doesn’t need to be repeated. Delete the description of ‘technically’.</p>
<p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p> <p>The standard was revised to replace “associated RA and/or Transmission Operator (TOP),” with “the reliability authority with which it has a reliability relationship.</p> <p>The adjective, “technically” was deleted.</p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>I can just see someone delaying the installation of a needed facility for 7 days because they didn’t want to get a non-compliance. There was not complete agreement on this comment. Seven companies voted in favor of this comment. One company voted against this comment.</p> <p>What is the difference between accurate data and technically accurate date? Is technically accurate data better that accurate data? Is technically accurate data different than accurate data?</p>
<p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p> <p>The adjective, “technically” was deleted.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>It is not clear whether the Generator Owner must supply this data to any requesting RA/TOP or just to the RA/TOP that has jurisdiction over the Generator. We propose that the Generator should only have to supply this information to his RA and TOP that he is connected to. Other RA’s should contact the Generator Owner’s RA for the information.</p>

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	<p>Why 7 days? If the intent is to ensure the requestor knows about the new facilities and can update their model before energization of the new facilities, then more than 7 days notice should be required. If the intent is to ensure the requestor is receiving the real-time data associated with the new facilities, then 7 days may be adequate.</p> <p>We suggest this requirement be changed similar to our comments provided on Requirement #2 under our response to question #13.</p> <p><i>{ If the requirement was changed to the TOP providing real time data, equipment limits, and model updates to their RA as specified by their RA, then the levels of non-compliance could be:</i></p> <ol style="list-style-type: none"> <li><i>(1) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for up to 24 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</i></li> <li><i>(2) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period of 24-36 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</i></li> <li><i>(3) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period of 36-48 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant).</i></li> <li><i>(4) Actual TOP telemetered data specified is not be provided by the TOP to the RA and the RA determines that the loss of the data prevents the RA from performing a reliability analysis or ensuring the system is operating within system operating limits for a period greater than 48 hrs and no provision was made by the TOP to manually supply the data (i.e. by staffing the station or plant), or the TOP did not station personnel at the Station or Plant as directed by the RA to provide this data while telemetry was being restored, or the TOP did not provide equipment limits as requested, or The TOP did not provide modeling update information until after the energization of new facilities.</i></li> </ol> <p><i>Note: the idea is that depending on system conditions, the RA may be able to rely on their previous operational planning analysis (next day analysis) for a day or so. However, if system conditions warrant, the RA should have the authority to direct the TOP to man the station and if the TOP refuses that should be considered a significant infraction.</i></p> <p><i>Need to define “surrogate value” and “surrogate data”.</i>}</p>
<p>The standard was revised to replace “associated RA and/or Transmission Operator (TOP),” with “the reliability authority with which it has a reliability relationship. This change supports your suggestion that the Generator only provide data to the RA it is connected to.</p> <p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p> <p>The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn’t have the data it needs to accurately assess the system with respect to its IROLs.</p>	
<p>Peter Burke ATC #1</p>	<p>No Same responses as provided to Questions 18 &amp; 20. <i>{ Levels of non-compliance would be better if defined something like:</i></p>

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	<p>(6) <i>Data for new/revised facilities was provided less than seven days prior to energization.</i></p> <p>(6) <i>Data for new/revised facilities was provided before one month after but not before energization.</i></p> <p>(6) <i>Data for new/revised facilities was provided before three months but not before one month after energization.</i></p> <p>1. <i>Data for new/revised facilities was not provided within three months after energization.</i>}</p> <p><i>{ Why do we go straight to level 4? Is it assumed that things are already working properly and that the penalty is being applied due to a lapse? If there are fines for non-compliance, are people incented to avoid paying fines by not energizing new equipment that's needed for reliability? }</i></p> <p><i>Levels of non-compliance would be better if defined something like:</i></p> <p>(6) <i>Data for new/revised facilities was provided less than seven days prior to energization.</i></p> <p>(6) <i>Data for new/revised facilities was provided before one month after but not before energization.</i></p> <p>(6) <i>Data for new/revised facilities was provided before three months but not before one month after energization.</i></p> <p>4.<i>Data for new/revised facilities was not provided within three months after energization.</i>}</p> <p>Some measure needs to be in place to make sure that the RA and TOP are notified in a timely manner that system changes are planned. This would be a challenge to meet initially as the processes are not in place to make this work well now.</p>
	<p>The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. The corresponding requirement for the RA to specify what data it needs was changed to allow each RA the flexibility to assign its own 'due date', so adopting these recommended levels of non-compliance is no longer appropriate.</p> <p>The result of all of these is the same – the RA doesn't have the data it needs to accurately assess the system.</p> <p>The standard was revised so the RA must develop and distribute a data specification – entities that receive the data specification are required to provide data, as specified, without the need for individual data requests. This should address your concern that there may be situations where the RA doesn't know about planned system changes.</p>
<p>Kathleen Goodman ISO NE #2</p>	<p>Yes/No</p> <p>The term Generator Owner has not been defined anywhere. There may be cases where, depending upon the Agreements in-place, that the actual owner of a generator is not responsible for providing anything but, rather, a third party performs this function on their behalf.</p> <p>Seven days advanced notice may not be feasible for updates to real-time (EMS) systems due to the impact to operations during 'cut-over' activities. The time-frame requirement may vary widely depending on database requirements, support staffing, impact to real-time operations, etc. We believe the timing should be left to the RAs.</p>

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<p>The Functional Model is currently being revised to include a definition of Generator Owner. The Generator Owner is the entity that owns the generator. If a generator owner has an agreement in place that requires another entity to provide data to the RA, then this does not exempt the Generator Owner from complying with the requirements in this standard. If the data were not provided as required, the Generator Owner would be found non-compliant and it would be up to the Generator Owner to seek relief from the entity that should have provided the data under their agreement.</p> <p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
Fred Frederick Vectren #3	No
<p><b>Yes – Comments about 7 days</b></p>	
Lee Xanthakos SCE&G #1	See comments for requirement 5 { I agree with the requirement, but I question the value of making a hard 7-day rule. Why not 14 days or 21 days????}
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
John Blazekovich Exelon #1,3,5,6	Yes Estimated data that describes equipment should be provided several months in advance of energization so that operational planning studies (12 months in advance) can be performed. Estimated data is probably adequate for the equipment energization provided as-built data is provided within a reasonable amount of time. We suggest one month after energization as a reasonable time frame for providing as-built data. "Estimated" versus "as-built" data should be defined.
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
Gerald Rheault Manitoba #1,3,5,6	Yes See comment in #18. { Manitoba Hydro questions the 7 day period specified. Some processes would require significantly more lead time than that while some require less; how was the 7 day time chosen. The issue is one of supplying data on a timely basis. Isn't that covered by another requirement.}
<p>The standard was modified to eliminate the requirement that data be provided 'no less than 7 days prior to energization.' The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p><b>Yes – Comments indicating additional clarification needed</b></p>	
Mike Miller Southern Co #1	Yes Define energization
<p>The term energization was dropped from the revised standard.</p>	
<p><b>Yes – Comments to modify requirements</b></p>	
Toni Timberman BPA #1	Yes requirement should be on Generator Owner or Operator, and the timeline specified by the requesting entity. Delete "the energization of new facilities or changes to existing facilities". BA should receive data from Generator also...timeline as specified by requesting party, but no less than 7 days...

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<p>The suggested revisions were made and are reflected in the revised standard, except that the revised standard forces the RA to stipulate an acceptable time frame for providing the data – the reference to ‘7 days . . .’ was dropped based on industry comments.</p>	
<p>Richard Schwarz PNSC #2</p>	<p>Yes The time to provide data should be specified by the RA since everyone has different time requirement to make EMS &amp; model changes. Should pertain to all facilities, not just new facilities.</p>
<p>The suggested revisions were made and are reflected in the revised standard.</p>	
<p>Albert M. DiCaprio MAAC #2 Charles Yeung Reliant Energy #6 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Doug Hils Cinergy #1 Ed Riley CA ISO #2 Joe Minkstein PG&amp;E #5 Karl Kohlrus CWL&amp;P #5 Richard Kafka Pepco #1 Stuart Goza TVA #1 Tom Petrich (5) PG&amp;E #1 William Smith Allegheny Pwr #1</p>	<p>Yes</p>

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**27. Requirement 9 – Do you agree with these levels of non-compliance for this requirement?**

<b>Original Levels of Non-compliance</b>
1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data for new/revised facilities was not provided as requested

<b>Revised Levels of Non-compliance</b>
1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Data not provided to the reliability authority as specified

**Summary Consideration:**

The fourth level of non-compliance was modified to conform with the language in the revised requirement. The reference to 'new/revised facilities' was dropped – the revised requirement addresses the data the RA needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.

Several commenters suggested adding more levels of non-compliance – to give partial credit for having the data a little incorrect, or a little late, in an almost acceptable format, etc. The result of all of these is the same – the RA doesn't have the data it needs to accurately assess the system. There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any of its interconnection reliability operating limits. For these reasons, additional levels of non-compliance were not added. The industry will be asked to comment on this decision in the next posting of this standard.

<b>No – Comments indicating that addressing non-compliance is premature</b>	
Todd Lucas (6?) Southern Co #1	No Until numbers 18, 20, 22, 24, & 26 are resolved the levels of non-compliance cannot be determined
The requirements have been adjusted and the non-compliance has been modified to conform to those adjustments.	
Gregory Campoli NY ISO #2	No It is premature to develop compliance levels at this time.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
Ed Riley CA ISO #2	No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.

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<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p><b>No – Comments indicating alternatives to suggested levels of non-compliance</b></p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>No Perhaps there should be several levels that are time dependent. See earlier comments regarding self certification and re-certification.</p>
<p>Several commenters suggested adding more levels of non-compliance – to give partial credit for having the data a little incorrect, or a little late, in an almost acceptable format, etc. The result of all of these is the same – the RA doesn't have the data it needs to accurately assess the system. There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any of its interconnection reliability operating limits. For these reasons, additional levels of non-compliance were not added.</p> <p>Re-certification as used here, is not the certification process that an entity goes through to receive a 'certificate' to operate as a reliability function. Self-certification is a term used in the compliance program that refers to a process whereby an entity completes a form that states the entity is in compliance – and re-certification is the periodic re-submittal of that form to restate that the entity is still in compliance with the associated requirement.</p>	
<p>Peter Burke ATC #1</p>	<p>No Levels of non-compliance would be better if defined something like:</p> <ul style="list-style-type: none"> <li>(6 Data for new/revised facilities was provided less than seven days prior to energization.</li> <li>(6 Data for new/revised facilities was provided before one month after but not before energization.</li> <li>(6 Data for new/revised facilities was provided before three months but not before one month after energization.</li> <li>(6 Data for new/revised facilities was not provided within three months after energization.</li> </ul> <p>There's no desire for penalties that dis-incent people from energizing new equipment but there's need for penalties that encourage early reporting. Not sure that 7 days will be needed once systems are in palce and incremental updates are being performed. There may also be a need for determining the impact of the facility addition to the system before determining penalties. (Should a new 200 MW generator going into service be penalized the same as a distribution tap serving 5 MWs of load? Probably not but this standard as written does not differentiate between the two.)</p>
<p>Several commenters suggested adding more levels of non-compliance – to give partial credit for having the data a little incorrect, or a little late, in an almost acceptable format, etc. The result of all of these is the same – the RA doesn't have the data it needs to accurately assess the system. There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any of its interconnection reliability operating limits. For these reasons, additional levels of non-compliance were not added.</p> <p>The revised standard does not include references to new/revised facilities, nor does it include a strict '7 day' time frame for providing data.</p> <p>The revised standard clarifies that the RA must specify and collect the data it needs to support real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area's interconnection reliability operating limits.</p>	
<p><b>No – Comments indicating additional clarity is needed</b></p>	

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<p>Thomas Pruitt Duke #1</p>	<p>No See 26. <i>{Define “associated”. The language is not clear enough. For example, some might interpret the requirement to read differently than others (as follows) – A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.}</i></p>
<p>The term ‘associated’ is not used in the revised standard. The revised requirement includes clarifying language to limit the number of RAs that may request data to those reliability authority(ies) with which it (the generator owner) has a reliability relationship.</p> <p>The revised standard does not include the 7- day lead time for providing data – instead the revised standard requires each RA to identify a time frame for providing it with data. The revised standard clarifies that the operational planning analysis addressed is done a day ahead of time. Operational Planning Analyses done a year ahead of time are not included in the scope of this standard.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5</p>	<p>No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p><b>No – Comments indicating non-compliance levels are inappropriate</b></p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No What if they provide the data, but it is 3 days prior to energization? Or they provide it 3 days after energization? Or 3 weeks after energization? What if they provide only partial data? Or only incorrect data? Are all these non-compliance events truly equal?</p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA’s ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn’t have the data it needs to accurately assess the system with respect to its IROLs.</p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>See comments for requirement 5 <i>{ Seems like there should be more than one level of non-compliance. What if the data was incomplete for example? Shouldn't merit some non-compliance penalty?}</i></p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA’s ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn’t have the data it needs to accurately assess the system with respect to its IROLs.</p>	
<p>Karl Kohlrus CWL&amp;P #5</p>	<p>No There should be a reminder sent out if the data is not sent initially before going directly to Level 4.</p>
<p>Each entity must assume responsibility for meeting its own requirements. The suggestion that a reminder be sent out has not been adopted.</p>	

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<p>George Bartlett Entergy Svcs 1</p>	<p>No There probably should be more than one level of non-compliance and not supplying requested data should not be the highest level of violation. The first level should be “Data for new/revised facilities not provided to TOPs and associated RAs when the data was . The second level should be “Data for new/revised facilities was not provided as requested”. The fourth level of non-compliance should be “Data not supplied to TOPs or associated RAs resulted in SOL violations”.</p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA’s ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. The result of all of the scenarios you described (missing data, partial data, or incorrect data) is the same – the RA doesn’t have the data it needs to accurately assess the system with respect to its IROLs. It would be very difficult to determine that the lack of data, by itself, resulted in operating outside an IROL – for this reason the suggestion was not implemented.</p>	
<p>Joseph Buch Madison #4</p>	<p>No There is only 1 level of non-compliance, level 4 and no definition of the data required. If certain key items of “data” were defined as part of the standard and they were not provided, a level 4 non-compliance would be appropriate. If these items were provided, however they were only provided 2 days before energization a level 3 non-compliance might be appropriate. Similarly, if the data on the key items were provided 3 to 7 days before energization a level 2 non-compliance might be appropriate. See further comments in question 47.</p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA’s ability to monitor and assess the status of the interconnection with respect to operating within interconnection reliability operating limits. This standard will not define specifically what data must be provided. Data requirements vary from RA to RA and under the proposed standard, each RA must decide what data it needs and must specify that data.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>No There should be levels of compliance based upon notification and collaboration with affected parties</p>
<p>These levels of non-compliance must be linked to this requirement. This requirement does not have a notification component. Levels of non-compliance for notification and collaboration would be more appropriate for the requirement that address specifying what data is needed.</p>	
<p><b>No – Comments indicating requirements are inappropriate</b></p>	
<p>Sam Jones ERCOT #2</p>	<p>See comments to #26 above. <i>{The timing of this Requirement conflicts with Requirement 5. That is, the seven days does not leave the RA any time to complete their obligations under Requirement 5.}</i></p>
<p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p>	
<p>Roger Green Southern Co #5</p>	<p>No These are non traditional requirements on generation owners (maybe not on the type of data but on the group or groups in which the generator must coordinate).</p>
<p>The Functional Model does assign the generator with the responsibility of providing facility data to its RA.</p>	
<p>Doug Hils</p>	<p>No Requirement are being duplicated between RA’s and TOP’s The standard should</p>

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Cinergy #1	require that the realibility analysis is being done by one or the other. It should not be necessary for both to duplicate the efforts
Agree. The standard has been revised to eliminate this duplication. All of the redundant requirements for the TOP have been removed from the standard.	
<b>No – Mix of comments</b>	
Susan Morris SERC #2  Robert Reed TS (See List)	<p>No</p> <p>1) See 26. In general there should be at least two levels of non-compliance identified.</p> <p><i>{Define “associated”. The language is not clear enough. For example, some might interpret the requirement to read differently than others (as follows) – A seven (7) day lead time is not sufficient for integration of data for a new facility. A more appropriate time-frame might be several months (given the time it takes to line up the telecommunications, etc., for transmission of a new quantity). If the data is going to be used for operational planning analysis, then this may require at least a one-year lead time.}</i></p> <p>(6 As an example of the need for clarification language, the “. . . no less than 7 days prior. “:</p> <p>In a market-based system, there are aspects of adding a new market entity that need considerably more than days-to-months lead time; for compliance a generator might be prohibited from operating commercially until all data and interconnection issues are resolved.</p>
<p>There is no requirement in the standards development process that mandates more than one level of non-compliance. The data being addressed here is critical to the RA’s ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits.</p> <p>The term, ‘associated’ was removed from the standard and was replaced with “the reliability authority with which it has a reliability relationship.”</p> <p>The standard was modified to eliminate the requirement that data be provided ‘no less than 7 days prior to energization.’ The revised requirement indicates that data must be provided within the timeframe specified by the RA.</p> <p>The type of data referenced in the comment about a market-based system is beyond the scope of this standard. The revised standard clarifies that the data is to support the RA’s real time monitoring, operational planning analyses and real time assessments conducted relative to operating within its reliability area’s interconnection reliability operating limits. Operational planning analyses are required to be conducted at least once each day looking at the day ahead.</p>	
Fred Frederick Vectren #3 Tony Jankowski We-Energies #4	No
David Kiguel Hydro One #1	<p>Yes/No</p> <p>We are unsure what type of analysis would be required here and it is unclear how often it would need to be performed. From a reliability standpoint, operational planning studies would be done that considers adequacy and system outages. We agree with the requirement but there is insufficient detail to measure compliance</p>

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<p>The data being collected under this requirement was meant to support the RA's ability to monitor and assess the status of the interconnection with respect to operating without exceeding any interconnection reliability operating limits. This has been clarified in the revised standard.</p> <p>This was not meant to address the data needed for long range planning studies. The revised standard clarifies that the RA must conduct an operational planning analysis at least once each day looking at the day ahead.</p>	
<p>Toni Timberman BPA #1</p>	<p>Yes delete new/revised facilities</p>
<p>The standard was revised as suggested.</p>	
<p>Richard Schwarz PNSC #2</p>	<p>Yes Should pertain to all facilities</p>
<p>The standard was revised to eliminate the specific reference to 'new or changed facilities'.</p>	
<p>Alan Johnson Mirant #6 Albert M. DiCaprio MAAC #2 Bob Burkard NCMPA1 # 3,4,5 Charles Yeung Reliant Energy #6 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2 Ed Stein Firstenergy Sol #6 Gerald Rheault Manitoba #1,3,5,6 Joanne Borrell FirstEnergy Sol #3 Joe Minkstein PG&amp;E #5 John Blazekovich Exelon #1,3,5,6 Kathleen Goodman ISO NE #2 Kim Warren IMO #2 Mike Miller Southern Co #1 Ray Morella FirstEnergy #1 Richard Kafka Pepco #1 Roman Carter So Co Gen 3,5,6 (6 members) Stuart Goza TVA #1 Tom Petrich (5) PG&amp;E #1 Vern Colbert Dominion #1 William Smith Allegheny Pwr #1</p>	<p>Yes</p>

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### 28. Requirement 10 – Do you agree with this requirement and its associated performance/outcome and measure/s?

#### Original Requirement

The Reliability Authority (RA) shall perform reliability analyses to identify where on its system the RA may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

#### Measure(s)

Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system

#### Outcome(s)

The RA shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

#### Revised Requirement

The reliability authority shall perform operational planning analyses to verify that its planned bulk electric system operations will not exceed any of its interconnection reliability operating limits.

The reliability authority shall perform real-time assessments to verify that it is not exceeding any interconnection reliability operating limits.

#### Measure(s)

**The reliability authority shall identify operating situations or events that impact its ability to operate its reliability area without exceeding any identified interconnection reliability operating limits.**

**The reliability authority shall conduct an operational planning analysis at least once each day, evaluating the next day's projected system operating conditions.**

- **The reliability authority shall conduct a real-time assessment periodically, but at least once every 30 minutes.**

#### Summary Consideration:

The requirement was revised to clarify that the reliability analyses are not intended to identify all possible problems, just credible problems within the RA's own area of responsibility that if left untended, could lead to instability, uncontrolled separation or cascading outages.

The definition of reliability analysis was refined to include both operational planning analyses and real time assessments, and this requirement was subdivided to reflect this refinement.

Several commenters indicated a need to stipulate a minimum frequency for conducting reliability analyses so a minimum frequency was added to the measures.

The outcomes section was redundant and was eliminated from all standards.

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No – Comments indicating additional clarity is needed	
(Compl Mgr)	<p>There should be some qualifiers that define a NERC minimum periodicity to complete reliability analysis. The RA should establish their particular cycle for doing reliability analysis, and that information should be included in their Certification documentation.</p> <p>Need to define what types of analysis are expected: actual flows versus limits, contingency analysis of all possible contingencies? Analysis of only those conditions defined in the day-ahead or seasonal studies? Is the requirement to do a “reliability analysis” every day? Every shift? Everytime a change in system configuration demands etc.</p>
<p>The requirement’s measures were refined to add a minimum frequency for conducting analyses. The suggestion that this be added to certification is outside the scope of the SDT – you are encouraged to submit comments on certification when the Certification SARs and standards are posted.</p> <p>The requirement was refined to add more clarity to the types of analyses that must be conducted.</p>	
Raj Rana AEP #1,3,5,6	<p>No</p> <p>This requirement is too vague. How often should the RA perform a reliability analysis? How often should the RA request the program to run? Once a hour? Once a day? Once a week? Should the reliability analysis program be running every 5 minutes or every 10 minutes. Per this requirement, if the RA so chooses, he could perform the analysis every other day and argue that is enough. Is it? The requirement should be clear that there is an expectation that the RA is performing an operational planning analysis on a daily basis looking at next day to next week projected conditions. Further, the RA must have the capability to perform a reliability analysis on demand in order to identify problems either real-time or on a next contingency basis. Finally, the RA should have a reliability analysis program (state estimator) that runs (which means it solves) a minimum of every 10 minutes.</p> <p>The Measure(s) section states the “program(s) run(s) when requested and identifies any problems that could cause instability”, . . . etc. “Any problems” is pretty broad. Often, a reliability analysis program (state estimator and operator load flow) does not perform an analysis on all possible contingencies but rather only credible contingencies identified by the operator from other system performance appraisals performed by a Planning Authority, a Transmission Owner’s Planning Section, RTO, or inter-regional study team. Do you really mean that the RA’s analysis program must be able to perform an analysis for all possible single contingency events within their network model? Many real-time analysis programs do not do this, but most RA’s also have access to off-line analysis programs that can meet this requirement. What is the intent here?</p> <p>We would suggest the requirement be that the reliability analysis program have the ability to identify first contingency problems (problems that could cause instability, uncontrolled separation, etc.) based upon credible first contingency scenarios identified by performance appraisals conducted by the PA or TOW’s Transmission Planning section.</p> <p>Also, define the time horizon.</p>
<p>The requirement’s measures were refined to add a minimum frequency for conducting analyses.</p> <p>The requirement was refined to add more clarity to the types of analyses that must be conducted.</p>	
David Kiguel Hydro One #1	<p>No</p> <p>It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.</p>

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<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No There is insufficient detail in measuring compliance with this requirement. This requirement identifies both operational analysis and real time analysis which implies various time frames for assessment.</p>
<p>The standard was revised to indicate that it is addressing both operational planning analyses and real-time assessments.</p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No Clarification language is needed to identify the type of analysis required. Also, define the periodicity of the analysis – how often it needs to be performed. From a reliability standpoint, operational planning studies are recommended to be performed to determine the adequacy during system outages. (TS only – We agree with the requirement but there is insufficient detail to measure compliance)</p>
<p>The standard was revised to indicate that it is addressing both operational planning analyses and real-time assessments. The revised standard indicates the operational planning analysis must be conducted at least once each day to look at the day ahead – and requires that real-time assessments be performed at least once every 30 minutes.</p>	
<p>Thomas Pruitt Duke #1</p>	<p>No (6 Language needs clarification to identify the type of analysis required. Also, define the periodicity of the analysis – how often it needs to be performed. 2) The RA should ensure that this function is performed (but it would not necessarily do it itself). There should be some provision for the analysis to be performed by a third party.</p>
<p>The requirement was refined to add more clarity to the types of analyses that must be conducted and to add a minimum frequency for conducting analyses. The RA may have any of its tasks accomplished by a third party – but that doesn't shift the responsibility for compliance to that third party – the RA is still accountable for achieving the results.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>No This needs clarification. Who is requesting that these programs be run? What type of programs? If there is no request, and nothing is done to study a potential reliability problem, is there non-compliance?</p>
<p>The RA is responsible for conducting these analyses to see if any of its IROLs will be exceeded without any request – these are conducted routinely by the RA. In the original requirement, the use of the phrase, 'when requested' was used to mean that the program ran for the RA's system operators. Many commenters indicated that this phrase wasn't clear, and it is not used in the revised standard. Several commenters did indicate a desire to state a minimum number of times that the RA must conduct these analyses, and the standard was revised to indicated that the operational planning analysis must be conducted at least once each day and that real-time assessments must be performed at least once every 30 minutes. This standard will not require the use of any particular application program – this is left to each RA. The standard does state, however, that the RA runs the analyses to verify that it can operate without exceeding any interconnection reliability operating limits.</p>	
<p><b>No – Comments indicating requirements inappropriate</b></p>	
<p>Ed Riley CA ISO #2</p>	<p>No The types of reports that would be needed to identify “problems that could cause instability, uncontrolled separation or cascading outages . . .” are not done quickly,</p>

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	making it difficult to perform them in real-time. The wording of the Requirement sounds like these would be required in real-time, and it is not possible for a RA to complete them in this time-frame.
The requirement was revised to clarify what was meant by 'reliability analyses'. The term 'reliability analysis' was replaced with operational planning analyses and real time assessments – with different measures for each of these types of assessments.	
Alan Johnson Mirant #6	No Believe the requirement should specify which entities can make a request of the RA. Would also think that there should be a distinction made between requests of a real-time and planning nature.
The RA is responsible for conducting these analyses to see if any of its IROLs will be exceeded without any request – these are conducted routinely by the RA. In the original requirement, the use of the phrase, 'when requested' was used to mean that the program ran for the RA's system operators. Many commenters indicated that this phrase wasn't clear, and it is not used in the revised standard. The requirement was revised to clarify what was meant by 'reliability analyses'. The term 'reliability analysis' was replaced with operational planning analyses and real time assessments – with different measures for each of these types of assessments.	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5	Yes/No We are unsure what type of analysis would be required here and it is unclear how often it would need to be performed. From a reliability standpoint, operational planning studies would be done that considers adequacy and system outages. We agree with the requirement but there is insufficient detail to measure compliance
The requirement was revised to clarify what was meant by 'reliability analyses'. The term 'reliability analysis' was replaced with operational planning analyses and real time assessments – with different measures for each of these types of assessments. As you suggested, the operational planning analysis does look ahead – and the real time assessment looks at the current conditions.	
Richard Schwarz PNSC #2	The RA should perform reliability analyses on the current operating system only to determine if the system is operating in a secure mode. This means running N-1, N-2 or credible contingency studies. The requirement should also include running an analysis program to mesh with the Measures and Outcome(s) requirement to run a reliability analysis program
The requirement was revised to clarify what was meant by 'reliability analyses'. The term 'reliability analysis' was replaced with operational planning analyses and real time assessments – with different measures for each of these types of assessments. As you suggested, the operational planning analysis does look ahead – and the real time assessment looks at the current conditions.	
Ed Stein Ray Morella Joanne Borrell Firstenergy #1, 3, 6 ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2	No Requirements 210 and 211 are very similar. Requirement 210 applies to Reliability Coordinators. Requirement 211 applies to Transmission Operators. The requirements are duplicative. The standard should require a reliability analysis to be performed by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing a reliability analysis if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator.
The requirement that the TOP perform reliability analyses has been dropped from this standard. Under the Functional Model, the RA is responsible for the reliability of the interconnected system – the TOP is responsible for the local network.	
Joseph Buch Madison #4	No There are two portions of the bulk transmission system that must be analyzed for

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	<p>reliable operation. One is the portion that involves inter-regional or major regional areas and the other involves sub-regional or more localized areas. Having one entity trying to address both could result in items being overlooked. The RA should be responsible for the overall regional and interregional system. The TOP should be responsible for the sub-regional and local system which generally consists of the system operating at less than 200 kV.</p>
<p>The requirement that the TOP perform reliability analyses has been dropped from this standard. Under the Functional Model, the RA is responsible for the reliability of the interconnected system – the TOP is responsible for the local network.</p> <p>This standard focuses on ensuring that the reliability area under the RA's control is operated without exceeding IROLs.</p>	
<p>Alan Boesch NPPD #1</p>	<p>No</p> <p>The measures and outcomes should be related to violating System Operating Limits and not be limited to instability, uncontrolled separation or cascading outages. See comments to question no. 10 above.</p> <p><i>{I am very confused by this Standard. Who is going perform these functions the TOP or the RA. The Standard appears to have both performing the same function. The Standard needs to define the relationship between the RA and TOP. Maybe that could be accomplished in a opening paragraph. The requirements on the limits may be too broad. For example, an operating limit should also protect the safety of the public. If a facility was loaded to the point where it no longer met clearance requirements, the RA should respect these limits. The standards also seem to ignore voltage limits. There are limits to how high or low the voltage should be allowed to go before action is required. In addition to steady-state voltages, there should be a limit on transient voltages as well. It is not clear from this standard that these limits apply.}</i></p>
<p>The scope of this standard must remain within the scope of the approved SAR. The purpose of this standard is to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>The standard was revised to clarify that it addresses just the subset of system operating limits that are called, 'interconnection reliability operating limits' or IROLs. These are the limits that, if exceeded, can result in instability, uncontrolled separation, or cascading outages.</p> <p>The standard was also revised to clarify that the RA is responsible for performing reliability analyses of its reliability area – not the TOP. The duplicate requirements for the TOP have been dropped from this standard.</p>	
<p>Fred Frederick Vectren #3</p>	<p>No</p>
<p><b>Mixed comments</b></p>	
<p>Toni Timberman BPA #1</p>	<p>Yes/No</p> <p>Lots of comments here....what is the definition of "problems"? Is the requirement saying that studies must be done until they come up with a scenario that would cause instability, etc? Taken literally, that is what this requirement is asking for. Must the studies run until they identify the 6-line, 3-substation outage combination that would tip the system over the edge? Realistically, the requirement should specify "n-1, n-2" types of studies, or "credible contingencies", etc. Required analyses should be in line with the NERC Reliability Criteria. The requirement seems to be backwards. The RA should evaluate its current operating condition to assess that the system is secure from instability, etc. If the Operational Planning studies were done correctly, no "problem" should be identified that could cause instability, etc. Also, there is nothing in the requirement that indicates a "program should run", but that is what the measure and the compliance levels are related to. This seems to have been made (inadvertently?) very specific to real-</p>

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	time analysis programs, and I don't believe that is the intent. The outcome mentions "shall run programs" but nothing is said about this in the requirement. Having a dispatcher (operator) assess the condition of the power system is valid "reliability analyses" according to the explanation of terms at the front of this comment form, but I don't believe this could be considered running an analysis program.
<p>The word, 'problems' is ambiguous and was dropped from the revised standard.</p> <p>A timing component was added to the measures to indicate a minimum frequency for performing the required analyses.</p> <p>The standard was revised to replace the phrase, 'reliability analyses' with two terms – operational planning analysis and real time assessments. In the revised standard, there is a performance measure for conducting an operational planning analysis and a separate performance measure for conducting real-time assessments.</p> <p>All references to programs running have been dropped from the revised standard.</p>	
<b>Yes – Other comments</b>	
FRCC 6-#1, 4-#2, 1-#2	<p>Yes</p> <p>The FRCC Security Process specifies the periodicity for performing real time contingency analysis and for operations planning studies. We agree with this requirement but would not support NERC telling how often the analysis should be performed. That should be left up to the Regions or the RAs.</p>
<p>The revised standard does distinguish between operational planning analyses and real-time assessments and includes a minimum frequency for conducting each of these. If the minimum frequency is more stringent than FRCC's Security Process, then please submit a Regional Difference when the revised standard is posted for comment.</p>	
<b>Yes – suggestions for additional clarifications</b>	
Sam Jones ERCOT #2  OLDTF (9?) 6 - #2 1 - #1,5	<p>Yes</p> <p>We agree with the Requirement; however, as written, it assumes that all RAs have online reliability analysis programs to identify the applicable limits. In fact, many use off-line studies to perform base case analyses, which are translated into cyclic computer calculations.</p>
<p>The revised standard distinguishes between operational planning analyses and real-time assessments and includes a minimum frequency for conducting each of these. The measures and levels of non-compliance don't reference the use of any specific type of program and don't apply sanctions for the program not running as requested – instead the sanctions focus on not conducting the analyses. As you pointed out, different RAs use different programs to achieve the same objective.</p>	
Gerald Rheault Manitoba #1,3,5,6	<p>Yes</p> <p>Manitoba Hydro agrees with the use of online reliability analysis programs to identify possible instability, uncontrolled separation or cascading outages that could adversely impact the reliability of the bulk transmission system. The analysis performed will identify the possibility of problems occurring but will not determine the secure operating limit for the system. Steps should then be taken by the RA to put the system in an operating mode to ensure that Operating Security Limits will not be violated.</p>
<p>Agreed. This is what this standard attempts to accomplish.</p>	
George Bartlett Entergy Svcs 1	<p>Yes</p> <p>We agree with this requirement in general. However, we suggest removing the term "when requested" from the Measures and add "as needed" in its place. The RA should be able to run analysis programs "when requested". It is more</p>

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	important he run the programs when needed to analyze the system limitations.
<p>Several commenters disliked the phrase, 'when requested'. This was replaced with a minimum frequency for conducting the analyses. In the original requirement, the use of the phrase, 'when requested' was used to mean that the program ran for the RA's system operators when the system operators tried to run the program. Many entities have state estimators that aren't operational. The intent was to ensure that the system operators had a program that did operate and could identify situations where IROLs may be exceeded. Many commenters indicated that this phrase wasn't clear, and some commenters indicated that there may be several programs used to analyze the system – consequently the phrase, 'when requested' is not used in the revised standard.</p>	
Francis Halpin BPA Bus Line #5,6	<p>Yes</p> <p>In principle we agree, this 'analyses' needs to be done immediately prior to the operating day – Some description needs to be added to provide clarity on when the analyses are supposed to be completed</p>
<p>The revised standard indicates that the operational planning analysis needs to be done a minimum of once each day. With RAs operating in different time zones, there didn't seem to be a reason for specifying a time when these analyses need to be completed.</p>	
Tom Petrich (5) PG&E #1	<p>Yes</p> <p>Please modify the sentence to read:</p> <p>"The RA shall run reliability analysis program(s) and the program(s) shall identify potential problems, if any, that could cause generation and transmission facility overloads, instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system." We should not lose sight of the responsibility of the RA to take proper actions to correct the problems that it has identified.</p>
<p>The scope of the standard is limited to the scope that was identified in the associated SAR. Expanding the scope to include overloads is beyond the scope of that SAR, unless the overloads could cause instability, uncontrolled separation or cascading outages.</p> <p><b>1. The standard was revised to indicate that the purpose of the analyses addressed in this requirement is to verify that the RA can operate the next day without exceeding any IROLs and to verify that the RA is operating in real time without exceeding any IROLs.</b></p>	
Vern Colbert Dominion #1	<p>Yes</p> <p>Define how often the studies should be performed.</p>
<p>The revised standard breaks down reliability analyses into operational planning analyses and real-time assessments. The revised standard indicates that the operational planning analysis must be conducted at least once each day – and the real-time assessment must be conducted at least once every 30 minutes.</p>	
Roman Carter So Co Gen 3,5,6 (6 members)	<p>Yes</p> <p>Agree with the requirement, but there is insufficient information on the analysis and how often it would be performed.</p>
<p>The revised standard breaks down reliability analyses into operational planning analyses and real-time assessments. The revised standard indicates that the operational planning analysis must be conducted at least once each day – and the real-time assessment must be conducted at least once every 30 minutes.</p>	
Peter Burke ATC #1	<p>Yes</p> <p>Somehow the requirement should recognize that large scale system instability threats may not be easily or quickly identified.</p>

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<p>The revised standard breaks down reliability analyses into operational planning analyses and real-time assessments. The revised standard indicates that the operational planning analysis must be conducted at least once each day – and the real-time assessment must be conducted at least once every 30 minutes.</p> <p>The definition of ‘operational planning analysis’ is: An analysis of the expected system conditions, given the peak load forecast(s), known system constraints such as facility outages, and generator outages and limitations, etc. The analysis should ensure that no interconnection reliability operating limits will be exceeded during expected normal operation.</p>	
<p>Lee Westbrook Oncor #1</p>	<p>Yes Do the analyses include the calculation of operating limits?</p>
<p>There is a separate standard that addresses the development of system operating limits. This standard starts with the assumption that system operating limits have been identified. This revised standard has a new requirement for the RA to identify the subset of its system operating limits that will serve as interconnection reliability operating limits, or IROLs.</p> <p>The analyses addressed in this revised requirement are operational planning analyses and real-time assessments.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>Yes is it practical to require on-line dynamic, voltage, and small signal stability analysis, or can an RA use a proxy?</p>
<p>There were several comments questioning the inference that specific programs must be used to achieve the performance objective of this standard. The revised standard leaves the RA more flexibility in using whatever programs it has that can produce operational planning analyses and real-time assessments. The revised standard focuses on conducting the analyses – and doesn’t focus on whether or not some program ran when the system operators tried to use it.</p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>Yes Although we agree with the need for the requirement we find the wording of this requirement to be somewhat ambiguous. The wording suggests that the RA or TOP is required to run studies until a cascading outage is found. We believe that the intent should be to analyze “Planned for Contingencies” and identify problems if any are found, but the wording does not state this. The RA should develop and document their “Planned for Contingencies” and should only be required to run reliability analysis to analyze these “Planned for Contingencies”.</p>
<p>The standard was revised to replace the phrase, ‘reliability analyses’ with two terms – operational planning analysis and real time assessments. In the revised standard, there is a performance measure for conducting an operational planning analysis and a separate performance measure for conducting real-time assessments.</p> <p>The standard was revised to indicate that the purpose of the analyses addressed in this requirement is to verify that the RA can operate the next day without exceeding any IROLs and to verify that the RA is operating in real time without exceeding any IROLs.</p>	

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<p>Albert M. DiCaprio MAAC #2          Bob Burkard NCMAPA1 # 3,4,5          Charles Yeung Reliant Energy #6          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          Doug Hils Cinergy #1          James Stanton Calpine #5          Joe Minkstein PG&amp;E #5          Karl Kohlrus CWL&amp;P #5          Kim Warren IMO #2          Lee Xanthakos SCE&amp;G #1          Mike Miller Southern Co #1          Richard Kafka Pepco #1          Roger Green Southern Co #5          Stuart Goza TVA #1          Todd Lucas (6?) Southern Co #1          Tony Jankowski We-Energies #4          William Smith Allegheny Pwr #1</p>	<p>Yes</p>
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**29. Requirement 10 – Do you agree with these levels of non-compliance for this requirement?**

<p><b>Original Levels of Non-compliance</b></p> <ol style="list-style-type: none"> <li>1. Reliability analysis did not run when requested, but ran within 8 hours</li> <li>2. Reliability analysis did not run when requested, but ran in 8 - 24 hours</li> <li><b>3. Reliability analysis did not run when requested, and did not run within 24 hours</b></li> <li><b>4. Not Applicable</b></li> </ol>
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<p><b>Revised Levels of Non-compliance</b></p> <p><i>Operational Planning Analysis</i></p> <ol style="list-style-type: none"> <li>1. Not applicable</li> <li>2. Not applicable</li> <li>3. Not applicable</li> <li>4. Operational planning analysis not conducted at least once each day</li> </ol> <p><i>Real Time Assessment</i></p> <ol style="list-style-type: none"> <li><b>1. Not applicable</b></li> <li><b>2. Not applicable</b></li> <li><b>3. Not applicable</b></li> <li><b>4. Real-time assessment not conducted at least once every 30 minutes</b></li> </ol>
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**Summary Consideration:**

The associated requirement was modified to replace the single term 'reliability analysis' with the two terms, 'operational planning analysis' and 'real-time assessments'. The measures in the revised requirement were shifted from focusing on whether or not an application program ran, to focusing on whether or not the assessments were conducted. The levels of non-compliance were modified to conform with these changes.

Several entities suggested linking the levels of non-compliance with recognition that a real-time assessment needed to take place – this was not adopted because it would be too difficult to assess.

<b>No – Comments indicating non-compliance levels don't match requirement</b>	
Richard Schwarz PNSC #2	No Compliance levels should measure the recognition that there was a need to perform analysis, and whether the analysis was or wasn't done.
<p>The levels of non-compliance were revised to focus on whether or not the analyses were done.</p> <p>The suggestion that the levels of non-compliance be linked to the recognition that there was a need to perform an analysis was not adopted because of the difficulty in assessing this.</p>	
FRCC 6-#1, 4-#2, 1-#2	No We are not sure that these levels fit completely. Wouldn't it depend on the type of reliability analyses being performed. For instance, if a real time contingency analysis was to be run by the RA every 5 minutes, these levels might not apply. But, if it was for a 7 day study twice a week, these might be more appropriate.

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	Also, who is requesting the reliability analysis? In FRCC, our Security Process (Reliability Plan) document lists the requirements for the reliability analysis in our region.
The revised standard does distinguish between an operational planning analysis conducted a day ahead and real time assessments. The levels of non-compliance were adjusted to independently assess whether or not each of these types of assessments was conducted.	
Alan Johnson Mirant #6	No Should be a distinction between non-compliance for real-time and planning requests.
The revised standard does distinguish between an operational planning analysis conducted a day ahead and real time assessments. The levels of non-compliance were adjusted to independently assess whether or not each of these types of assessments was conducted.	
Alan Boesch NPPD #1	No Is there a difference between “run” and converge? A program can run but not produce useful results. It also seems there should be some period of time to permit the solution to converge prior to being out of compliance. It is not realistic to get convergence 100% of the time on real-time programs.
The standard was revised to shift the focus from whether the application program ran to whether or not the two types of analyses were conducted – the operational planning analysis to look at the day ahead, and the real time assessments to look at the current situation.	
Toni Timberman BPA #1	No Compliance levels are not related to the requirement. A better measure would be whether the RA recognized (or didn't) that there was a need to perform analysis, and whether the analysis was done (or wasn't). The measures and compliance should assess whether the RA did analysis rather than program performance.
The standard was revised to shift the focus from whether the application program ran to whether or not the two types of analyses were conducted – the operational planning analysis to look at the day ahead, and the real time assessments to look at the current situation.  The suggestion that the levels of non-compliance be linked to the recognition that there was a need to perform an analysis was not adopted because of the difficulty in assessing this.	
Tom Petrich (5) PG&E #1	These levels of non-compliance are not clear to us. Who is “requesting” the reliability analysis and what is the basis? How does this relate to the actual operation of the system? In WECC, we require the system be adjusted within 20 minutes to reduce flows on stability limited paths to be within their operational limits for the system conditions. We would expect the reliability analysis be requested and performed well in advance so the RA is prepared to monitor and take corrective actions.
In the original requirement, the use of the phrase, ‘when requested’ was used to mean that the program ran for the RA’s system operators when the system operators tried to run the program. Several commenters indicated that this was unclear, and the revised standard does not use this term.  The revised standard replaces ‘reliability analysis’ with ‘operational planning analysis and real-time assessments’. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes.	
Susan Morris SERC #2 Thomas Pruitt Duke #1 Robert Reed	No (6 Number 28 needs to be addressed before non-compliance can be determined.  2) Based on the time-frames specified, the levels of non-compliance imply different compliance than the requirement does. Clarification should consider: Is the requirement based on real-time operating concerns, or is it based on a short-

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TS (See List)	term reliability/scheduling concern?
<p>The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes.</p>	
<p>Sam Jones ERCOT #2 OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>No</p> <p>Please see comments to #28 above. Also, the Requirement is seemingly more important than it is depicted here. Instead of skipping Level 4, should use Levels 2, 3, and 4 with the caveat of having appropriate predetermined analyses to take the place of real-time analyses.</p> <p><i>(We agree with the Requirement; however, as written, it assumes that all RAs have online reliability analysis programs to identify the applicable limits. In fact, many use off-line studies to perform base case analyses, which are translated into cyclic computer calculations.)</i></p>
<p>The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>Non-compliance measures are too vague. What if the reliability analysis did not run when requested but ran within 5 or 10 minutes? What if the reliability analysis ran but the solution did not converge due to missing data, etc? There should be a different requirement and measure for real-time reliability analysis and operational planning analysis. Also, by the definition you provided, reliability analysis also includes system operator assessments. So by strict interpretation, as long as the RA's system operator assesses the situation, he would never be in violation of this requirement. As we said, this requirement and it's measures are too vague.</p>
<p>The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>The MISO Day 2 market relies on analysis tools running every 5 minutes. Not sure that 8 hours is an acceptable cutoff for level 1 non-compliance.</p> <p>It is unreasonable that an analysis not running once but recovering to run in a few minutes would still be considered non-compliance. Level 1 non-compliance should allow a buffer of time for the start of the analysis, maybe 1 or 2 hours, to be compliant. The reason is that some analyses (e.g., dynamic stability) can take 1 or 2 hours to set up the appropriate cases for the analysis and have the runs completed. Level 1 non-compliance would be more reasonable if written as follows:</p> <p>"Reliability analysis did not run within 1 (or 2) hour(s) of request, but ran within 8 hours."</p> <p>There is some concern as to how MISO can maintain an accurate model of the system based on the size of the system MISO's required to model and the number of changes being made to this system. Another concern is how reliable the network analysis tools can be when relying on ICCP as their only data source. Some of this data may be second hand which will tend to complicate analysis.</p>

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<p>The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p> <p>The certification requirements for the RA will require that there be tools in place to develop real time and contingency analyses.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>No</p> <p>Level #3 should read "Reliability analysis did not run when requested, but ran in 24-48 hours" and level #4 should be added to read "Reliability analysis did not run when requested, and did not run in 48 hours"</p>
<p>The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p>	
<p>Kim Warren IMO #2</p>	<p>No</p> <p>A minimum time standard should be built into this compliance issue similar to "Exceeding an Operating Limit but Not a Reportable Violation" (question 5 &amp; 6). There should be a time allowance for short term failures (i.e. &lt; 30 minutes) of the run of reliability analysis programs, under normal system conditions, before reporting is required.</p>
<p>The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>From the information the writer has provided we would suggest that the level of non compliance be based on findings that the system was found to be in an operating state that could have resulted in "instability, uncontrolled separation etc" due to the fact that an effective reliability analysis was not done, that would have identified the condition.</p>
<p>While this concept is supported, it was not adopted because it would be very difficult to assess this performance. The levels of non-compliance were adjusted so they focus on whether or not the analyses were conducted – not on the operation of the program used to conduct the analysis or the operations personnel that conducted the analysis.</p>	
<p>Joseph Buch Madison #4</p>	<p>No</p> <p>Of major concern is the case where a critical element has been forced out of service. Having the reliability analysis not run within 24 hours is not acceptable under these conditions. The real time system should not have to run "blind" for more than 24 hours. This should be classified as level 4 non-compliance. Also levels 1 &amp; 2 should be classified as levels 2 &amp; 3.</p>
<p>The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p>	
<p>Ed Stein Joanne Borrell FirstEnergy #1, 3, 6</p>	<p>No</p> <p>The Reliability Coordinator should be allowed to use a previous reliability analysis that covered similar system conditions if the reliability analysis could not</p>

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<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>be run because of computer problems or was duplicative of a previous reliability analysis. Such action should not result in a non-compliance.</p>
<p>The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5</p>	<p>No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No This does not capture the wide range of possible risks associated with not meeting the intent of this requirement.</p>
<p>The standard was revised to shift the focus from whether or not the program was running to focusing on whether or not the analyses were conducted.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>No Manitoba Hydro believes that the times referenced are artificial and don't relate to system need and risk. Time frames should be determined based on system need and the relative risk posed to the system of not having these tools operational.</p>
<p>The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No Levels of non-compliance should be based on the RAs not analyzing the system as needed to determine system limitations. The levels of non-compliance, as specified, will direct the RAs efforts to running an analysis "when requested", rather than analyzing the system. Therefore, we suggest changing the levels of non-compliance in a direction that will incent the RA to properly analyze the system.</p>
<p>The suggested change to shift the focus to whether or not the RA analyzed the system was made – the revised standard's levels of non-compliance focus on whether or not the analyses were conducted.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>No Not stringent enough.</p>
<p>The levels of non-compliance were further subdivided to assess sanctions if either the operational planning analysis or the real-time assessments were not conducted.</p>	
<p>Ed Riley CA ISO #2</p>	<p>No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.</p>

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<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>Doug Hils Cinergy #1</p>	<p>No Requirement are being duplicated between RA's and TOP's The standard should require that the realibility analysis is being done by one or the other. It should not be necessary for both to duplicate the efforts. The RA in our case has a much better view of the setup and transactions taking place across the grid. TOP view of the world would be very limited in comparison.</p>
<p>The duplicate requirements for the TOP have been eliminated from the revised standard.</p>	
<p>Fred Frederick Vectren #3</p>	<p>No</p>
<p>David Kiguel Hydro One #1</p>	<p>Yes/No We are unsure what type of analysis would be required here and it is unclear how often it would need to be performed. From a reliability standpoint, operational planning studies would be done that considers adequacy and system outages. We agree with the requirement but there is insufficient detail to measure compliance. Please see our comments under item # 44 (Regional and Interconnection Differences).</p>
<p>Many commenters voiced the same concern about the interpretation of the word 'analysis'. The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>Yes We agree with the form of non-compliance but without complete knowledge of how often the studies will be performed, we're not sure that the timeframes are adequate or not.</p>
<p>The revised standard replaces 'reliability analysis' with 'operational planning analysis and real-time assessments'. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p>	

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Albert M. DiCaprio MAAC #2 Bob Burkard NCMPA1 # 3,4,5 Charles Yeung Reliant Energy #6 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 James Stanton Calpine #5 Joe Minkstein PG&E #5 John Blazekovich Exelon #1,3,5,6 Karl Kohlrus CWL&P #5 Lee Xanthakos SCE&G #1 Mike Miller Southern Co #1 Richard Kafka Pepco #1 Stuart Goza TVA #1 Todd Lucas (6?) Southern Co #1 Tony Jankowski We-Energies #4 Vern Colbert Dominion #1 William Smith Allegheny Pwr #1	Yes
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**30. Requirement 11 – Do you agree with this requirement and its associated performance/outcome and measure/s?**

<p><b>Original Requirement</b></p> <p>The Transmission Operator (TOP) shall perform reliability analyses to identify where on its system the TOP may encounter problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>Measure(s)</p> <p>Analysis program(s) run(s) when requested and identifies any problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system</p> <p>Outcome(s)</p> <p>The TOP shall run reliability analysis program(s) and the program(s) shall identify problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p>
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**Revised Requirement:** None

**Summary Consideration:**

Several commenters indicated that this requirement should be removed or adjusted. Under the Functional Model, the RA has the principal responsibility for analyzing reliability-related data within its Reliability Area. Several commenters indicated a need for a requirement for TOPs to analyze the subset of the transmission system under their control to see instances where IROLs may be approached or exceeded. The system operating limits monitored by the TOP are not IROLs and are outside the scope of this standard. Because so many commenters indicated a desire for a requirement for the TOP, the SDT has advised that the Director-Standards that there may be a need for an additional standard to address the TOP’s requirement to analyze its portion of the transmission system.

Based on the comments submitted, a new requirement was added to the standard. The new requirement mandates that the TOP, BA and IA follow the RA’s directives relative to IROLs. This should ensure that if the RA directs another entity to take action, and the other entity fails to take those actions, the entity that failed to act may be sanctioned.

<b>No – Comments indicating requirements inappropriate for the TOP – belongs to the RA</b>	
Doug Hils Cinergy #1	No Duplicated effort of the RA in standard 210
<b>This requirement has been dropped from this standard.</b>	
FRCC 6-#1, 4-#2, 1-#2	No It would seem that this requirement is really unnecessary. Requirement 10 has the RAs performing the analysis and that should be all that is needed. However, if it were to stay, TOPs should not be required to run on-line/real-time automated studies to identify and/or forecast bulk reliability concerns. NERC should not expect every TOP to acquire and maintain on-line reliability analysis tools without adequate reliability benefit to justify such a costly universal requirement – particularly since the RAs will be required to use such tools anyway.
<b>This requirement has been dropped from this standard.</b>	
Sam Jones ERCOT #2	No In the ERCOT Region, the primary responsibility for such analysis is ERCOT as

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<p>OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>the RA. This is in conjunction with any analysis the TOP performs, but the TOP does not have the primary responsibility. In other words, the RA is responsible for these analysis.</p> <p>Also, please refer to our comments to Q28.</p> <p><i>{We agree with the Requirement; however, as written, it assumes that all RAs have online reliability analysis programs to identify the applicable limits. In fact, many use off-line studies to perform base case analyses, which are translated into cyclic computer calculations.}</i></p>
<p><a href="#">This requirement has been dropped from this standard.</a></p>	
<p>Vern Colbert Dominion #1</p>	<p>No The RA should perform this analysis</p>
<p><a href="#">This requirement has been dropped from this standard.</a></p>	
<p>Richard Kafka Pepco #1</p>	<p>No This is an RA responsibility</p>
<p><a href="#">This requirement has been dropped from this standard.</a></p>	
<p>Toni Timberman BPA #1</p>	<p>No</p> <p>Again, according to the Functional Model the TOP has no responsibilities related to the bulk transmission system. Also see comments to Requirement 10.</p> <p><i>{ Lots of comments here....what is the definition of “problems”? Is the requirement saying that studies must be done until they come up with a scenario that would cause instability, etc? Taken literally, that is what this requirement is asking for. Must the studies run until they identify the 6-line, 3-substation outage combination that would tip the system over the edge? Realistically, the requirement should specify “n-1, n-2” types of studies, or “credible contingencies”, etc. Required analyses should be in line with the NERC Reliability Criteria. The requirement seems to be backwards. The RA should evaluate its current operating condition to assess that the system is secure from instability, etc. If the Operational Planning studies were done correctly, no “problem” should be identified that could cause instability, etc. Also, there is nothing in the requirement that indicates a “program should run”, but that is what the measure and the compliance levels are related to. This seems to have been made (inadvertently?) very specific to real-time analysis programs, and I don’t believe that is the intent. The outcome mentions “shall run programs” but nothing is said about this in the requirement. Having a dispatcher (operator) assess the condition of the power system is valid “reliability analyses” according to the explanation of terms at the front of this comment form, but I don’t believe this could be considered running an analysis program.}</i></p>
<p><a href="#">This requirement has been dropped from this standard.</a></p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No</p> <p>This requirement should be eliminated – Requirement 10 (at the RA level) is adequate. See response to Question number 2.</p> <p><i>{1} RAs should be required to run (on-line/real-time) automated studies and off-line operational planning studies to identify and/or forecast bulk reliability concerns, but TOPs should not be subject to such requirements. The standard does not read as though manual analysis is sufficient, as it references “analysis tool” availability and then makes mention of “reliability analysis did not run” in multiple locations. This verbiage indicates that manual reliability analysis is not sufficient. Therefore, modifications should be made to alter this requirement for the TOPs. Expecting every TOP to acquire and maintain on-line reliability</i></p>

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	<p><i>analysis tools is too expensive and too obtrusive without adequate reliability benefit to justify such a universal requirement – particularly since the RAs will be required to use such tools anyway.</i></p> <p>(6) <i>What is the scope of the term “real time”? The footnote appearing on pg.1 of Version A defines “real time” but it is still not clear if this is restricted to data extracted from the Energy Management Systems, and does a reference to “real-time” conceptually imply data, or processes, or both?</i></p> <p>(6) <i>What is the definition and scope of “operational planning analysis”?</i></p> <p>4) <i>It seems the Reliability Analysis definition above is an attempt to conceal the fact that many existing entities performing Reliability Authority Functions do not have a working state estimator. The RA should explain what type of analysis tool(s), the frequency, the type of input data (off-line or real-time), etc. that is used to perform “reliability analysis”.</i></p> <p>(6) <i>Why are the analysis requirements of the RA and the TOP identical? If this is true, why do we need an RA and a TOP?</i></p> <p>6) <i>Why isn’t there a standard for the TOP to provide telemetered data? There should be some type of performance standard established to assess the accuracy of telemetered data.}</i></p>
<p><a href="#">This requirement has been dropped from this standard.</a></p>	
<p>Ray Morella Joanne Borrell Ed Stein FirstEnergy #1, 3, 6 ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>Requirements 210 and 211 are very similar. Requirement 210 applies to Reliability Coordinators. Requirement 211 applies to Transmission Operators. The requirements are duplicative. The standard should require a reliability analysis to be performed by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both of them doing a reliability analysis if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator</p>
<p><a href="#">This requirement has been dropped from this standard.</a></p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>The Transmission Operator may not have the wide area data that is available to a Reliability Coordinator and may not have as extensive a model as the Reliability Coordinator. There may be differences between the reliability analysis done by the Transmission Operator and the Reliability Coordinator. There needs to be coordination between the Transmission Operator and Reliability Coordinator on these analysis.</p>
<p><a href="#">This requirement has been dropped from this standard.</a></p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>This is duplicative to Requirement #10. Why should the RA and TOP be required to perform the same analysis? We do not dispute that redundancy is good nor that many TOP’s will perform this function. However, a NERC Reliability standard should not require the TOP to do this as this is clearly within the scope and function identified for the RA. The TOP should be clearly required to implement and follow the directives that an RA may issue due to their performance of a reliability analysis for their footprint. Further, we do not believe this is a function that the RA should be allowed to delegate to another party.</p> <p>Define the time horizon.</p>

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<p>This requirement has been dropped from this standard. The certification criteria for the RA and the TOP will require that agreements be in place that define the reporting relationship between the RA and the TOP.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>RA should take the lead &amp; TOP should assist but not be held to RA standard.</p> <p>Same comments as in 12.</p> <p><i>{I am not aware of many TOPs that have the tools needed to study voltage stability and/or transient stability for their systems in real time. MISO has these tools and is working to implement them. If the standard is implemented as written it will require a significant investment and development effort at many sites to put the necessary reliability monitoring tools in place. When done, we have duplication of effort and significant costs incurred with a limited benefit to the system.</i></p> <p><i>I do believe that the TOP should be capable of monitoring its system and analyzing to make sure it can survive first contingency events and maintain operations within acceptable guidelines. This requires a functioning State Estimator, Security Screening/Contingency Analysis, and Online Power Flow.}</i></p> <p>A basic analysis tool set (SE, SA, and PF) should be running at the TOP shop. The more advanced tools like voltage stability, transient stability, etc. may be better suited to the RAs.</p>
<p>This requirement has been dropped from this standard.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>No</p> <p>It is unclear what the relationship and responsibilities of the TOP are as compared to the RA. The Standard proposes the same language for both functions. What is the reporting relationship and operational hierarchy between the RA and the TOP? Is the TOP analysis more “local” in nature than the RA analysis? What if each one’s analysis does not agree? Which analysis will prevail to ensure grid reliability?</p>
<p>This requirement has been dropped from this standard. The certification criteria for the RA and the TOP will require that agreements be in place that define the reporting relationship between the RA and the TOP.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>No</p> <p>The drafting team should consider the requirement for TOP’s to run reliability analysis “programs” in the context of the small, non-RTO, Transmission Operator who may not have access to these tools.</p> <p>Again, clarity as to when the analysis must be completed.</p>
<p>This requirement has been dropped from this standard.</p>	
<p>Joseph Buch Madison #4</p>	<p>No</p> <p>See comments on question 28.</p> <p><i>{ There are two portions of the bulk transmission system that must be analyzed for reliable operation. One is the portion that involves inter-regional or major regional areas and the other involves sub-regional or more localized areas. Having one entity trying to address both could result in items being overlooked. The RA should be responsible for the overall regional and interregional system. The TOP should be responsible for the sub-regional and local system which generally consists of the system operating at less than 200 kV.}</i></p>
<p>This requirement has been dropped from this standard.</p>	
<p>Albert M. DiCaprio MAAC #2</p>	<p>No</p> <p>As noted above the TOP is not responsible for system analysis (which is the only</p>

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	<p>way it could identify an OSL). Therefore in the Reliability Standards process that responsibility still lies with the RA. The RA can provide the data to the TOP as needed or as agreed to (e.g. they can agree that the TOP gets the data directly)</p>
<p><a href="#">This requirement has been dropped from this standard.</a></p>	
<p>Lloyd Linke MAPP #2</p>	<p>No</p> <p>RAs should be required to run (on-line/real-time) automated studies to identify bulk reliability concerns, but TOPs should not be subject to such requirements. I don't believe the Standard reads as though manual analysis is sufficient, as it references "analysis tool" availability and the makes mention of "reliability analysis did not run" in a multiple locations. This verbiage indicates that manual reliability analysis is not sufficient. Therefore, modifications should be made to alter this requirement for the TOPs. Expecting every TOP to acquire and maintain on-line reliability analysis tools is too expensive and too obtrusive without adequate reliability benefit to justify such a universal requirement – particularly since the RAs will be required to use such tools anyway.□</p> <p>See comment under question #7 regarding the definition of operating limits.</p> <p><i>{ System operator limits as defined herein is appropriate for RAs, but should not be defined as provided herein for TOPs. For TOPs, system operating limits should not include only those limits which have been identified as leading to cascading outages, instability, or uncontrolled separation. This is a major issue in terms of the scope. As conceived herein, this standard does not result in any entity assuring that the bulk power system is operating within limits, it only results in operating within those limits for which violations result in instability/cascading outage risk. That is inappropriate. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby requiring consistent monitoring and adherence, should be covered by this standard.}</i></p>
<p><a href="#">This requirement has been dropped from this standard.</a></p>	
<p><b>No – Comments indicating additional clarification needed</b></p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>This needs clarification. Who is requesting that these programs be run? What type of programs? If there is no request, and nothing is done to study a potential reliability problem, is there non-compliance?</p>
<p><a href="#">This requirement has been dropped from this standard.</a></p> <p>The term 'when requested' was meant to indicate that when the system operators tried to use the program, the program worked for them – this was not meant to indicate that one entity called and asked the RA to conduct an analysis. The language for the same requirement for the RA was modified to eliminate this confusion with the phrase 'when requested'.</p>	
<p>Ed Riley CA ISO #2</p>	<p>No.</p> <p>See response to question #28</p> <p><i>{The types of reports that would be needed to identify "problems that could cause instability, uncontrolled separation or cascading outages.." are not done quickly, making it difficult to perform them in real-time. The wording of the Requirement sounds like these would be required in real-time, and it is not possible for a RA to complete them in this time-frame.}</i></p>
<p><a href="#">This requirement has been dropped from this standard.</a></p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No</p> <p>There is insufficient detail in measuring compliance with this requirement. This requirement identifies both operational analysis and real time analysis which</p>

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	implies various time frames for assessment.
<p>This requirement has been dropped from this standard. The same requirement for the RA was modified to distinguish between the analysis done for operational planning and the analysis done for real-time assessments.</p>	
<p><b>No – Comments suggesting specific modifications to the requirements</b></p>	
<p>Alan Johnson Mirant #6</p>	<p>No The measure should specify which functions can make a request of the TOP. There may also be a need to make a distinction between real-time and planning requests.</p>
<p>This requirement has been dropped from this standard. The term ‘when requested’ was meant to indicate that when the system operators tried to use the program, the program worked for them – this was not meant to indicate that one entity called and asked the RA to conduct an analysis. The language for the same requirement for the RA was modified to eliminate this confusion with the phrase ‘when requested’.</p>	
<p>Thomas Pruitt Duke #1</p>	<p>No There should be some provision for the analysis to be performed by a third party.</p>
<p>Several commenters indicated that this requirement should be dropped from this standard and that change was made.</p>	
<p>Alan Boesch NPPD #1</p>	<p>No The measures and outcomes should be related to violating System Operating Limits and not be limited to instability, uncontrolled separation ore cascading outages. See comments to question no. 10 above. <i>{The measures and outcomes should be related to violating System Operating Limits and not be limited to instability, uncontrolled separation ore cascading outages. See comments to question no. 10 above.}</i></p>
<p>Several commenters indicated that this requirement should be dropped from this standard and that change was made. This standard’s focus is limited to the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. The revised standard calls these, ‘interconnection reliability operating limits’ or IROLs. Several other commenters shared your concern that a requirement is needed that addresses a broader range of system operating limits. The SDT has advised that the Director-Standards that there may be a need for an additional standard to address the TOP’s requirement to monitor its system operating limits.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No Our comments to Requirement 10 apply here also. <i>{ We agree with this requirement in general. However, we suggest removing the term “when requested” from the Measures and add “as needed” in its place. The RA should be able to run analysis programs “when requested”. It is more important he run the programs when needed to analyze the system limitations.}</i></p>
<p>Several commenters indicated that this requirement should be dropped from this standard and that change was made. The term ‘when requested’ was meant to indicate that when the system operators tried to use the program, the program worked for them – this was not meant to indicate that one entity called and asked the RA to conduct an analysis. The language for the same requirement for the RA was modified to eliminate this confusion with the phrase ‘when requested’.</p>	
<p>Compliance</p>	<p>Delete – Duplication of effort between RC and TOP</p>

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Managers	
Fred Frederick Vectren #3	No
<b>Yes – Comments suggesting additional clarifications</b>	
Kim Warren IMO #2	<p>Yes/No</p> <p>Yes ,only if it is recognized that in some jurisdictions, the TOP may be the same entity as the RA but does not necessarily perform all of the roles(eg. Switching, maintenance, outage &amp; construction notification) that the Functional Model defines for the TOP.</p> <p>Where the RA and the TOP are different, there needs to be a clear distinction of which system limits each are accountable for. This document should be reworked to be consistent with the recently issued OLD TF report.</p>
<p>Several commenters indicated that this requirement should be dropped from this standard and that change was made. This standard is only focusing on the subset of system limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>The work of the OLDTF was considered in the revisions to this standard. While the concepts in the OLDTF report are very similar to the objectives of this standard, there are some significant differences. The SDT is doing its work as part of an open standards development process and will utilize the work of the OLDTF to the extent that its work is available and is submitted in response to public postings of the draft standard. The SDT will not wait for the OLDTF or any other group to complete its work.</p>	
David Kiguel Hydro One #1	<p>Yes/No</p> <p>We are unsure what type of analysis would be required here and it is unclear how often it would need to be performed. From a reliability standpoint, operational planning studies would be done that considers adequacy and system outages. We agree with the requirement but there is insufficient detail to measure compliance. Please see our comments under item # 44 (Regional and Interconnection Differences).</p>
<p>Several commenters indicated that this requirement should be dropped from this standard and that change was made. Your comments were applied to the changes made to the same requirement for the RA. Additional clarity was added to the revised requirement to distinguish between an operational planning analysis and a real-time assessment. The revised RA requirement indicates that the operational planning analysis must be conducted at least once a day, and the real-time assessment must be done at least every 30 minutes.</p>	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5	<p>Yes/No</p> <p>We are unsure what type of analysis would be required here and it is unclear how often it would need to be performed. From a reliability standpoint, operational planning studies would be done that considers adequacy and system outages. We agree with the requirement but there is insufficient detail to measure compliance</p>
<p>Several commenters indicated that this requirement should be dropped from this standard and that change was made. Your comments were applied to the changes made to the same requirement for the RA. Additional clarity was added to the revised requirement to distinguish between an operational planning analysis and a real-time assessment. The revised RA requirement indicates that the operational planning analysis must be conducted at least once a day, and the real-time assessment must be done at least every 30 minutes.</p>	
Lee Xanthakos SCE&G #1	<p>Yes/No</p> <p>See comment for question 12.</p> <p><i>{ I agree with requirements, but I do not agree that it written exactly the same as the RAs. As a matter of fact, my opinion of the entire draft is that a distinction is</i></p>

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	<i>made between the requirements of an RA and a TOP. Why have two entities required doing the same thing?}</i>
Several commenters indicated that this requirement should be dropped from this standard and that change was made. All of the redundant requirements for the TOP were dropped from the standard because under the Functional Model, the TOP is not responsible for operating the portion of the transmission system that involves interconnection reliability operating limits or IROLs.	
Lee Westbrook Oncor #1	Yes See Requirement 10. { Do the analyses include the calculation of operating limits?}
Several commenters indicated that this requirement should be dropped from this standard and that change was made. The analyses being addressed do not include the calculation of operating limits – but there is a separate requirement that IROLs be identified. The calculation of system operating limits is addressed by a separate standard, “Determine Facility Ratings, System Operating Limits and Transfer Capabilities”.	
Gerald Rheault Manitoba #1,3,5,6	Yes See comment for #28. { Manitoba Hydro agrees with the use of online reliability analysis programs to identify possible instability, uncontrolled separation or cascading outages that could adversely impact the reliability of the bulk transmission system. The analysis performed will identify the possibility of problems occurring but will not determine the secure operating limit for the system. Steps should then be taken by the RA to put the system in an operating mode to ensure that Operating Security Limits will not be violated.}
Several commenters indicated that this requirement should be dropped from this standard and that change was made. As indicated in your comment, the type of analysis programs needed to analyze the transmission system to identify situations that could lead to instability, uncontrolled separation or cascading outages that could adversely impact the reliability of the bulk transmission system are used by the RA and not the TOP.	
John Blazekovich Exelon #1,3,5,6	Yes Although we agree with the need for the requirement we find the wording of this requirement to be somewhat ambiguous. The wording suggests that the RA or TOP is required to run studies until a cascading outage is found. We believe that the intent should be to analyze “Planned for Contingencies” and identify problems if any are found, but the wording does not state this. The RA or TOP should develop and document their “Planned for Contingencies” and should only be required to run reliability analysis to analyze these “Planned for Contingencies”.
Several commenters indicated that this requirement should be dropped from this standard and that change was made. The RA’s requirement was modified to indicate that an operational planning analysis must be conducted at least once each day and a real-time assessment must be conducted at least once every 30 minutes.	
Tom Petrich (5) PG&E #1	Yes Please modify the sentence to read: “The TOP shall run reliability analysis program(s) and the program(s) shall identify potential problems, if any, that could cause generation and transmission facility overloads, instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.” We should not lose sight of the responsibility of the TOP to take proper actions to correct the problems that it has identified.

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<p>Several commenters indicated that this requirement should be dropped from this standard and that change was made. Several commenters indicated that not all TOPs have the programs needed to conduct these analyses – and other commenters indicated that Functional Model assigns this responsibility to the RA and not the TOP.</p> <p>Your suggestion implies that the scope of the standard be expanded to include generation and facility overloads. This scope of this standard was set with the approval of its associated SAR. The scope of the approved SAR does not include overloads unless those overloads could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>Yes</p> <p>However we have the same comments as in question #28.</p> <p><i>{ Agree with the requirement, but there is insufficient information on the analysis and how often it would be performed.}</i></p>
<p>Several commenters indicated that this requirement should be dropped from this standard and that change was made. The same requirement for the RA was modified to add more clarity to the type of analyses that must be conducted, and the frequency with which they must be conducted.</p>	
<p>Bob Burkard NCMPA1 # 3,4,5 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 James Stanton Calpine #5 Joe Minkstein PG&amp;E #5 Karl Kohlrus CWL&amp;P #5 Mike Miller Southern Co #1 Roger Green Southern Co #5 Stuart Goza TVA #1 Todd Lucas (6?) Southern Co #1 Tony Jankowski We-Energies #4 William Smith Allegheny Pwr #1</p>	<p>Yes</p>

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### 31. Requirement 11 – Do you agree with these levels of non-compliance for this requirement?

#### Original Levels of Non-compliance

1. Reliability analysis does not run when requested, but runs within 8 hours
2. Reliability analysis does not run when requested, but runs in 8 - 24 hours
3. Reliability analysis does not run when requested, and does not run within 24 hrs
4. Not Applicable

**Revised Levels of Non-compliance:** None

#### Summary Consideration:

Several commenters indicated that this requirement should be removed or adjusted. Under the Functional Model, the RA has the principal responsibility for analyzing reliability-related data within its Reliability Area. Several commenters indicated a need for a requirement for TOPs to analyze the subset of the transmission system under their control to see instances where IROLs may be approached or exceeded. The system operating limits monitored by the TOP are not IROLs and are outside the scope of this standard. Because so many commenters indicated a desire for a requirement for the TOP, the SDT has advised that the Director-Standards that there may be a need for an additional standard to address the TOP's requirement to analyze its portion of the transmission system.

No – Comments indicating additional clarification needed	
Alan Johnson Mirant #6	No Should be a distinction between non-compliance for real-time and planning requests.
Although this requirement was dropped from this standard – your comment was applied to the same requirement for the RA. There, the levels of non-compliance were adjusted so that compliance with conducting an operational planning analysis is assessed separately from compliance with conducting real-time assessments.	
Alan Boesch NPPD #1	No Is there a difference between “run” and converge? A program can run but not produce useful results. It also seems there should be some period of time to permit the solution to converge prior to being out of compliance. It is not realistic to get convergence 100% of the time on real-time programs
This requirement and its associated levels of non-compliance have been dropped from the revised standard.	
Kim Warren IMO #2	No A minimum time standard should be built into this compliance issue similar to “Exceeding an Operating Limit but Not a Reportable Violation” (question 5 & 6). There should be a time allowance for short term failures (i.e. < 30 minutes) of the run of reliability analysis programs, under normal system conditions, before reporting is required.

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<p>Although this requirement was dropped from this standard – your comment was applied to the same requirement for the RA.</p> <p>The revised RA requirement replaces ‘reliability analysis’ with ‘operational planning analysis and real-time assessments’. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>Non-compliance measures are too vague. What if the reliability analysis did not run when requested but ran within 5 or 10 minutes? What if the reliability analysis ran but the solution did not converge due to missing data, etc? There should be a different requirement and measure for real-time reliability analysis and operational planning analysis. Also, by the definition you provided, reliability analysis also includes system operator assessments. So by strict interpretation, as long as the RA’s system operator assesses the situation, he would never be in violation of this requirement. As we said, this requirement and it’s measures are too vague. Define the time horizon.</p> <p>Should the concern be limited to those thermal overloads and voltage conditions that lead only to catastrophic events?</p>
<p>Although this requirement was dropped from this standard – your comment was applied to the same requirement for the RA.</p> <p>The revised RA requirement replaces ‘reliability analysis’ with ‘operational planning analysis and real-time assessments’. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p> <p>The scope of the standard is limited to the scope defined in the SAR’s purpose - “to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system”</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>No</p> <p>It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can’t be objectively measured.</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>These levels of non-compliance are not clear to us. Who is “requesting” the reliability analysis and what is the basis? How does this relate to the actual operation of the system? In WECC, we require the system be adjusted within 20 minutes to reduce flows on stability limited paths to be within their operational limits for the system conditions. We would expect the reliability analysis be requested and performed well in advance so the RA is prepared to monitor and take corrective actions.</p>

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<p>Although this requirement and its associated levels of non-compliance have been dropped from the standard, your comment was applied to the revisions made to the same requirement for the RA. With the RA requirement, the language that suggested that a program run, 'when requested' was dropped. The term, 'when requested' was intended to mean that when the system operators tried to run the program, the program worked – this was not intended to mean that one entity might call the RA and ask that an analysis be conducted for them.</p> <p>With the RA requirement, additional details were added to specify that an operational planning analysis must be conducted at least once a day, and a real-time assessment must be conducted at least once every 30 minutes.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>We have the same comments as in question #29 <i>{ We agree with the form of non-compliance but without complete knowledge of how often the studies will be performed, we're not sure that the timeframes are adequate or not.}</i></p>
<p>Although this requirement and its associated levels of non-compliance have been dropped from the standard, your comment was applied to the revisions made to the same requirement for the RA. With the RA requirement, additional details were added to specify that an operational planning analysis must be conducted at least once a day, and a real-time assessment must be conducted at least once every 30 minutes.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>See comment for #29. <i>{ Manitoba Hydro believes that the times referenced are artificial and don't relate to system need and risk. Time frames should be determined based on system need and the relative risk posed to the system of not having these tools operational.}</i></p>
<p>Although this requirement and its associated levels of non-compliance have been dropped from the standard, your comment was applied to the revisions made to the same requirement for the RA. With the RA requirement, the levels of non-compliance were revised to focus on whether or not the analyses were conducted – not on whether or not a program ran.</p>	
<p><b>No – Comments indicating compliance levels inappropriate</b></p>	
<p>Ray Morella Joanne Borrell Ed Stein FirstEnergy #1, 3, 6 ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No The Transmission Operator should be allowed to use a previous reliability analysis that covered similar system conditions if the reliability analysis could not be run because of computer problems or was duplicative of a previous reliability analysis. Such action should not result in a non-compliance.</p>
<p>Although this requirement and its associated levels of non-compliance have been dropped from the standard, your comment was applied to the revisions made to the same requirement for the RA. With the RA requirement, the levels of non-compliance were revised to focus on whether or not the analyses were conducted – not on whether or not a program ran.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No Our comments to Requirement 10 apply here also. <i>{ Levels of non-compliance should be based on the RAs not analyzing the system as needed to determine system limitations. The levels of non-compliance, as specified, will direct the RAs efforts to running an analysis "when requested", rather than analyzing the system. Therefore, we suggest changing the levels of non-compliance in a direction that will incent the RA to properly analyze the system.}</i></p>

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<p>Although this requirement and its associated levels of non-compliance have been dropped from the standard, your comment was applied to the revisions made to the same requirement for the RA.</p> <p>The suggested change to shift the focus to whether or not the RA analyzed the system was made – the revised standard’s levels of non-compliance focus on whether or not the analyses were conducted.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>From the information the writer has provided we would suggest that the level of non compliance should be based on findings that the system was found to be in an operating state that could have resulted in “instability, uncontrolled separation etc” due to the fact that an effective reliability analysis was not done, that would have identified the condition.</p>
<p>This requirement and its associated levels of non-compliance have been dropped from this standard. While the concept is supported, it was not adopted for use with the same RA requirement because it would be very difficult to assess this performance. The levels of non-compliance were adjusted for the RA requirement so they focus on whether the analyses were conducted – not on the operation of the program used to conduct the analysis or the operations personnel that conducted the analysis.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No</p> <p>This does not capture the wide range of possible risks associated with not meeting the intent of this requirement.</p>
<p>This requirement and its associated levels of non-compliance have been dropped from this standard. The same requirement for the RA was modified to focus on whether the required analyses were conducted, rather than on whether the software program was operating. The revised RA requirement assesses compliance with conducting the operational planning analysis separately from conducting real-time assessments. The performance reset period was changed to ‘one day’ to give more emphasis to the seriousness of not running these analyses.</p>	
<p>Joseph Buch Madison #4</p>	<p>No</p> <p>See comments on question 29.</p> <p><i>{ Of major concern is the case where a critical element has been forced out of service. Having the reliability analysis not run within 24 hours is not acceptable under these conditions. The real time system should not have to run “blind” for more than 24 hours. This should be classified as level 4 non-compliance. Also levels 1 &amp; 2 should be classified as levels 2 &amp; 3.}</i></p>
<p>This requirement and its associated levels of non-compliance have been dropped from this standard. The same requirement for the RA was modified to focus on whether the required analyses were conducted, rather than on whether the software program was operating.</p>	
<p>Toni Timberman BPA #1</p>	<p>No</p> <p>See comments to Requirement 10</p> <p><i>{ Compliance levels are not related to the requirement. A better measure would be whether the RA recognized (or didn’t) that there was a need to perform analysis, and whether the analysis was done (or wasn’t). The measures and compliance should assess whether the RA did analysis rather than program performance.}</i></p>
<p>This requirement and its associated levels of non-compliance have been removed from the revised standard.</p> <p>The suggestion that non-compliance be linked to ‘recognizing’ is difficult to enforce and wasn’t adopted for use with the same RA requirement’s levels of non-compliance. Your suggestion that the levels of non-compliance focus on whether the analysis was conducted was adopted and is reflected in the revised standard.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>No</p> <p>Too lax.</p>

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<p>This requirement and its associated levels of non-compliance have been removed from the revised standard. The same requirement for the RA was modified and addresses your comment about levels of non-compliance being too lax. With the revised levels of non-compliance for the RA's requirement, separate level four sanctions are applied for failing to conduct either an operational planning analysis or a real-time assessment.</p>	
<p><b>No – Comments indicating requirement is inappropriate</b></p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>No We really do not think this requirement is necessary.</p>
<p>This requirement and its associated levels of non-compliance have been removed from the revised standard.</p>	
<p>Doug Hils Cinergy #1</p>	<p>No Requirement 12 and 13 duplicate activities between the RA and the TOP's. In general I agree with the requirement but only one entity should be required to fulfill requirement.</p>
<p>This requirement and its associated levels of non-compliance have been removed from the revised standard.</p>	
<p>Susan Morris SERC #2 Thomas Pruitt Duke #1 Robert Reed TS (See List)</p>	<p>No See 30. {This requirement should be eliminated – Requirement 10 (at the RA level) is adequate. See response to Question number 2.}</p>
<p>This requirement and its associated levels of non-compliance have been removed from the revised standard.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>No See #30  { RAs should be required to run (on-line/real-time) automated studies to identify bulk reliability concerns, but TOPs should not be subject to such requirements. I don't believe the Standard reads as though manual analysis is sufficient, as it references "analysis tool" availability and the makes mention of "reliability analysis did not run" in a multiple locations. This verbiage indicates that manual reliability analysis is not sufficient. Therefore, modifications should be made to alter this requirement for the TOPs. Expecting every TOP to acquire and maintain on-line reliability analysis tools is too expensive and too obtrusive without adequate reliability benefit to justify such a universal requirement – particularly since the RAs will be required to use such tools anyway.  See comment under question #7 regarding the definition of operating limits.  { System operator limits as defined herein is appropriate for RAs, but should not be defined as provided herein for TOPs. For TOPs, system operating limits should not include only those limits which have been identified as leading to cascading outages, instability, or uncontrolled separation. This is a major issue in terms of the scope. As conceived herein, this standard does not result in any entity assuring that the bulk power system is operating within limits, it only results in operating within those limits for which violations result in instability/cascading outage risk. That is inappropriate. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby requiring consistent monitoring and adherence, should be covered by this standard.}</p>

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<p>This requirement and its associated levels of non-compliance have been removed from the revised standard.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>Same as response to Question #29, subject to advice provided to Question #30.</p> <p><i>{The MISO Day 2 market relies on analysis tools running every 5 minutes. Not sure that 8 hours is an acceptable cutoff for level 1 non-compliance. It is unreasonable that an analysis not running once but recovering to run in a few minutes would still be considered non-compliance. Level 1 non-compliance should allow a buffer of time for the start of the analysis, maybe 1 or 2 hours, to be compliant. The reason is that some analyses (e.g., dynamic stability) can take 1 or 2 hours to set up the appropriate cases for the analysis and have the runs completed. Level 1 non-compliance would be more reasonable if written as follows:</i></p> <p><i>“Reliability analysis did not run within 1 (or 2) hour(s) of request, but ran within 8 hours.”</i></p> <p><i>There is some concern as to how MISO can maintain an accurate model of the system based on the size of the system MISO’s required to model and the number of changes being made to this system. Another concern is how reliable the network analysis tools can be when relying on ICCP as their only data source. Some of this data may be second hand which will tend to complicate analysis.}</i></p> <p>Additionally, if system conditions are “normal,” it may be acceptable to lose applications for an extended period of time (possibly 1 hour) without this being a problem. Alternatively, at some times, the loss of study tools for 10 minutes can be a disaster. A flat 8 hour cutoff may force TOPs to have applications support personnel on site around the clock which may not be necessary. Non-compliance should be defined in a way that conforms to Operator sense of urgency for the analysis tools.</p>
<p>This requirement and its associated levels of non-compliance have been removed from the revised standard.</p> <p>The same requirement for the RA has been revised to replace ‘reliability analysis’ with ‘operational planning analysis and real-time assessments’. The revised measures require that the operational planning analysis be done at least once a day and that the real-time assessments be done at least once every 30 minutes. The levels of non-compliance were adjusted to conform with these changes and focus on whether or not the analyses were conducted without looking at the programs used to conduct the analyses.</p> <p>The certification requirements for the RA will require that there be tools in place to develop real time and contingency analyses.</p>	
<p><b>No – Other comments</b></p>	
<p>Ed Riley CA ISO #2</p>	<p>No</p> <p>The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can’t be objectively measured.</p>	
<p>Fred Frederick Vectren #3 Albert M. DiCaprio MAAC #2 Vern Colbert Dominion #1 Richard Kafka Pepco #1</p>	<p>No</p>

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### 32. Requirement 12 – Do you agree with this requirement and its associated performance/outcome and measure/s?

#### Original Requirement

The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

The RA shall document actions taken.

#### Measure(s)

Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.

#### Outcome(s)

**The RA shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.**

#### Revised Requirement

The reliability authority shall act or direct others to act to:

- Prevent instances where interconnection reliability operating limits may be exceeded
- Mitigate the magnitude and duration of instances where interconnection reliability operating limits have been exceeded

The reliability authority shall document instances of exceeding interconnection reliability operating limits and shall document and complete an Interconnection Reliability Operating Limit Violation Report for instances of exceeding interconnection reliability operating limits for time greater than or equal to  $T_v$ .

#### Measure(s)

1. **The reliability authority shall document each instance of exceeding an interconnection reliability operating limit:**
  - **The reliability authority shall document via an operations log or other data source, the actions taken or directives issued, the magnitude of the event, and the duration of the event. (This data may be from an operating log, may be from the entity's energy management system, or may be from some other source.)**
2. **The reliability authority shall report each instance of exceeding an interconnection reliability operating limit for time greater than or equal to  $T_v$ :**
  - **The reliability authority shall complete an Interconnection Reliability Operating Limit Violation Report and shall file the report with its compliance monitor within five business days of the initiation of the event. (The report includes the date and time of the event, identification of which interconnection reliability operating limit was violated and the  $T_v$  for that limit, magnitude and duration of exceeding the interconnection reliability operating limit, actions taken or directives issued, and explanation of results of actions or directives.)**

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### Summary Consideration:

This requirement was revised to more clearly indicate that the RA may act or may direct others to act. A footnote has been added to clarify that under some conditions, taking no overt action may be a reasonable 'action'. The requirement has been revised to clarify that we are trying to prevent or mitigate exceeding IROLs. The requirement has been subdivided into two clearly separate items that address prevention and mitigation. This requirement duplicated much of what was in a separate requirement for documentation – and the two have been combined here. The Outcomes section deleted from all standards.

No – Comments indicating requirement is inappropriate	
Lee Xanthakos SCE&G #1	<p>No</p> <p>We do not agree with this requirement. Furthermore we do not agree that NERC has the authority to force such a requirement onto the RAs. As written, the requirement essentially bestows functional control to the RA. This is something the South Carolina PSC has expressly ruled is the responsibility of the TSP and no one else. Actual and functional control of the transmission system is the responsibility of SCE&amp;G's transmission department. This responsibility can not and will not be transferred to any other entity without expressed approval of the Public Service Commission. This approval has not been given nor is it expected to be given, regardless of SCE&amp;G's desires</p> <p>We recommend that drafting team should instead write a standard that requires the RA to notify the TSP of a imminent situation and provide assistance, if requested, so the TSP can implement their own mitigation plans.</p>
<p>These new reliability standards are being drafted in support of the Functional Model. Under the Functional Model, the reliability authority has responsibility for protecting the reliability of the transmission system – and the transmission operator has responsibility for protecting the reliability of local networks. It sounds like SCE&amp;G may serve as both an RA and a TSP – this is totally acceptable under the Functional Model. If this is true, there is no conflict with the requirements imposed by the South Carolina PSC.</p>	
Vern Colbert Dominion #1	<p>No</p> <p>RA should prevent an identified problem beforehand. He can only mitigate when there is an actual emergency.</p>
<p>The standard has been revised to include the following language: 'prevent or mitigate' to distinguish that these are two separate items.</p>	
Todd Lucas (6?) Southern Co #1	<p>No</p> <p>The RA itself cannot take direct action to prevent/mitigate potential problems. The requirement should be that the RA notify the responsible parties that can take direct action.</p>
<p>The RA may or may not be able to take direct action to resolve the problem. Where it does not, it is still accountable to insure that appropriate action is taken. If appropriate action is not taken, the non-compliance belongs to the RA. The standard has been revised to clearly indicate that the RA shall act or direct others to act.</p>	
Charles Yeung Reliant Energy #6	<p>No</p> <p>The RA must not act when there are market mechanisms available to mitigate/prevent the identified problem. This Standard must recognize that such congestion management processes will be accommodated by the RAs before RAs take actions. The Standard must coordinate with the business practice or standard th The requirement should be that the RA notify the responsible parties that can take direct action.</p>

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<p>The RA has the ultimate responsibility for resolving an identified problem by whatever means it has at its disposal. The RA will undoubtedly employ market mechanisms to uphold this responsibility but this standard will not require it to do so.</p>	
<p><b>No – Other comments</b></p>	
<p>William Smith Allegheny Pwr #1</p>	<p>No Requirement 212 and 213 are very similar. Requirement 212 applies to Reliability Authorities and requirement 213 applies to Transmission Operators. There should be some coordination so that the two entities don't take different actions.</p>
<p>The RAs will have the ultimate responsibility for compliance to this standard. The duplicate requirement for TOPs has been dropped from this standard.</p>	
<p>Ed Stein Joanne Borrell Ray Morella FirstEnergy #1, 3, 6  ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No Requirements 212 and 213 are very similar. Requirement 212 applies to Reliability Coordinators. Requirement 213 applies to Transmission Operators. The requirements are duplicative. The standard should require actions be taken to prevent/mitigate identified problems by either the Reliability Coordinator or the Transmission Operator, but not both of them.  It should be clear in the agreement between the Transmission Operator and their Reliability Coordinator who has authority to take the action to correct or mitigate a problem. Having two different entities responsible to take action to correct a problem is troublesome. The possibility exists that the two entities may decide on different courses of action to solve the problem. Valuable minutes may be squandered by the two different entities attempting to coordinate actions. Only one entity should have the responsibility to take action and that responsibility needs to be clearly delineated.</p>
<p>The RAs will have the ultimate responsibility for compliance to this standard. The duplicate requirement for TOPs has been dropped from this standard.  Agreements between the RA and the TOP that delineates the authority of each with respect to reliability are expected to be required as part of Certification.</p>	
<p>Compliance Managers</p>	<p>There are two parts to the Requirement. The first is a requirement to use the monitoring and analysis information to prevent an OSL. If this is done, there are no further requirements since there are no violations.  The second part of the proposed requirement is to determine how well the entity rectified (mitigated) the situation after a violation occurred. This will be part of the report and possible investigation after a violation occurs, and therefore will be part of the process of Requirement #1.  Delete Requirement #12</p>
<p>Monitoring and analysis may also indicate that an IROL has been exceeded – and in this case actions are needed – there may or may not be a reportable violation.  Requirement 1 in the original draft standard was limited to monitoring – the requirement and measures did not include any reports.</p>	
<p><b>No – Comments suggesting specific changes</b></p>	
<p>Thomas Pruitt Duke #1</p>	<p>No Change the wording from “take actions necessary” to “direct actions necessary”. This requirement is actually 2 requirements – the action and documentation of the action. The requirement/measure should be separated into two separate requirements.</p>
<p>The standard was revised to reflect these suggestions. In the revised standard, the phrase, ‘act or direct others to act’ has been used because in some cases the RA may actually take the necessary actions.</p>	
<p>Doug Hills</p>	<p>No</p>

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Cinergy #1	Level four as needs to be rewritten to only include action not taken on the part of the RA and exclude items outside control.
<p>The standard supports the Functional Model’s concept that the RA has ultimate responsibility for protecting the reliability of the transmission system. The RA has many tools at its disposal to achieve its objectives. The standard holds the RA accountable for achieving results, not just for effort.</p>	
<p><b>No – Comments suggesting additional clarification needed</b></p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No Should not combine the terms “prevention” and “mitigation” in the same requirement/measure unless the language is clear to eliminate potential ambiguity. Prevention and mitigation are actions that may be undertaken in two different timeframes. Without clear language, the requirement/measure should be separated into two separate requirements to address the prevention and mitigation as separate issues.  (SERC Only: This requirement and requirement 14 should be combined and rewritten to require that the RA have procedures in place that specifies actions needed to preserve reliable operation of the system.)</p>
<p>Prevention and Mitigation truly do occur in different time frames. The requirement has been modified to clearly indicate that the RA is trying to prevent or mitigate exceeding IROs.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No This requirement should be revised to clearly separate “prevent” and “mitigate” identified problems. This is also difficult to quantify. Suppose a next-hour contingency analysis is run based on expected load and generation and it shows a slight post-contingent overload. Then, the weather changes in the area of the overload, causing no overload (projected post-contingent) in real-time. Was this a Level 3 violation? The RA should forecast problems and observe the trajectory of the trends and then determine the appropriate course of action or inaction as the case may be.</p>
<p>Prevention and Mitigation truly do occur in different time frames. The requirement has been modified to clearly indicate that the RA is trying to prevent or mitigate exceeding IROs.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No The reference “to prevent” is related to real time monitoring and “mitigate” is related to operational planning analysis ? These requirements should be made clear.</p>
<p>Prevention and Mitigation truly do occur in different time frames. The requirement has been modified to clearly indicate that the RA is trying to prevent or mitigate exceeding IROs.</p>	

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<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>We agree with the overall intent of this requirement. However, additional language is required. It seems the only desired outcome of this requirement is that the RA have documentation. Shouldn't another desired outcome be that the system is operated reliably? Hence a key component missing is that of the RA directing the TOP or BA to take action, as the RA typically cannot take any actions other than to give directives.</p> <p>Should the concern be limited to monitoring only those levels of thermal overloads and/or voltage conditions that lead to catastrophic events?</p> <p>How does this requirement fit with the current NERC TLR process?</p> <p>Suggested revisions noted below:  <b>Requirement 12:</b>  The Reliability Authority (RA) shall use the results of real time monitoring and/or reliability analyses to take <b>and direct</b> actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>The RA shall document actions taken <b>or directed</b>.</p> <p><b>Measure(s):</b>  Documentation showing that actions were taken <b>or directed</b> to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p><b>Outcome(s) (100% Compliance):</b>  The RA shall document actions taken <b>or directed</b> to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p>
<p>The standard has been revised to more clearly indicate that the RA may act or may direct others to act. The purpose of this standard is to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. The SDT interpreted this to mean that this standard should focus on those system operating limits that, if exceeded, would lead to instability, uncontrolled separation or cascading outages.</p> <p>TLR is a procedure. This standard does not reference or require the use of any specific procedure.</p> <p>The scope of the SAR , as identified in its purpose, indicates that this standard will be limited to those limit violations that could lead to catastrophic events.</p>	
<p>Ed Riley CA ISO #2</p>	<p>No</p> <p>See response to #28.</p> <p><i>{ The types of reports that would be needed to identify “problems that could cause instability, uncontrolled separation or cascading outages..” are not done quickly, making it difficult to perform them in real-time. The wording of the Requirement sounds like these would be required in real-time, and it is not possible for a RA to complete them in this time-frame.}</i></p>
<p>The requirement for performing analyses was revised to clarify what was meant by ‘reliability analyses’. The term ‘reliability analysis’ was replaced with operational planning analyses and real time assessments – with different measures for each of these types of assessments.</p>	
<p>Alan Boesch NPPD #1</p>	<p>No</p> <p>The measures and outcomes should be related to violating System Operating Limits and not be limited to instability, uncontrolled separation ore cascading outages. See comments to question no. 10 above.</p> <p><i>{I am very confused by this Standard. Who is going perform these functions the TOP or the RA. The Standard appears to have both performing the same</i></p>

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	<p><i>function. The Standard needs to define the relationship between the RA and TOP. Maybe that could be accomplished in a opening paragraph. The requirements on the limits may be too broad. For example, an operating limit should also protect the safety of the public. If a facility was loaded to the point where it no longer met clearance requirements, the RA should respect these limits. The standards also seem to ignore voltage limits. There are limits to how high or low the voltage should be allowed to go before action is required. In addition to steady-state voltages, there should be a limit on transient voltages as well. It is not clear from this standard that these limits apply.}</i></p>
<p>The purpose of this standard is to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. The SDT interpreted this to mean that this standard should focus on those system operating limits that, if exceeded, would lead to instability, uncontrolled separation or cascading outages.</p> <p>Industry comments have indicated that the RA should be assigned these responsibilities, not the TOP. This delineation of responsibility is clarified in the revised standard.</p> <p>The scope of this standard must remain within the scope of the approved SAR. The purpose of this standard is to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>The standard was revised to clarify that it addresses just the subset of system operating limits that are called, 'interconnection reliability operating limits' or IROLs. These are the limits that, if exceeded, can result in instability, uncontrolled separation, or cascading outages.</p> <p>The standard was also revised to clarify that the RA is responsible for performing reliability analyses of its reliability area – not the TOP. The duplicate requirements for the TOP have been dropped from this standard.</p>	
<p><b>Yes – Comments suggesting additional clarifications</b></p>	
Richard Schwarz PNSC #2	<p>Yes The RA should direct rather than take action.</p>
<p>The RA may or may not be able to take direct action to resolve the problem. Where it does not, it is still accountable to insure that appropriate action is taken. If appropriate action is not taken, the non compliance belongs to the RA. The standard has been revised to more clearly indicate that the RA may act or may direct others to act.</p>	
Toni Timberman BPA #1	<p>Yes Functional Model requires RA to “direct” actions rather than “take” actions. TOP or BA would be the entities actually “taking” action. Again, need to know definition of “problems”. Is there a requirement for 3-year retention of information associated with this requirement?</p>
<p>The RA may or may not be able to take direct action to resolve the problem. Where it does not, it is still accountable to insure that appropriate action is taken. If appropriate action is not taken, the non compliance belongs to the RA.</p> <p>The standard has been revised to more clearly indicate that the RA may act or may direct others to act.</p> <p>The standard has been revised to more clearly indicate that the ‘problems’ being addressed are “IROL violations.” The draft standard omitted an indication of how long the RA needs to retain data – this has been added to the revised standard.</p> <p>Currently regional compliance managers conduct performance audits of each control area once every three years. Assuming that the same cycle is retained for auditing RAs, the three year retention ensures that there will be some data available when each entity is audited.</p>	
Kathleen Goodman ISO NE #2	<p>Yes Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.</p>

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<p>The standard has been revised to make a more clear distinction between prevention and mitigation. The revised standard focuses more on the use of the results of analyses than on which type of analysis presented the RA with the data it needed to take action.</p>	
<p>James Stanton Calpine #5</p>	<p>Yes Would like to see language in the Measure to the effect this documentation of actions taken will be readily available to all participants. This would help insure that potential discriminatory actions do not occur, and if they do, will be discoverable. If it is not readily available then the RA is non-compliant. The Measure and Non-compliance levels should also contain a time period when the documentation will be available.</p>
<p>The suggestion that the documentation be made available to all participants was not incorporated because there doesn't seem to be a reliability-related need for this. If there is a reliability-related need for the sharing of these documents, please clearly specify what that reliability need is when the revised standard is re-posted.</p>	
<p>Peter Burke ATC #1</p>	<p>Yes The need is clear and the TLR process is a first step in tracking these kinds of activities. This could be worded more carefully to describe "documentation" that is reasonable and applicable in the normal course of business without being open to an interpretation requiring extraordinary and unreasonable documentation.</p>
<p>The requirement has been revised to indicate that any documentation may be used as long as it shows the RA's actions or directives, and the magnitude and duration of the event.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>Yes It should be noted that prevention and mitigation are actions that may be undertaken in two different timeframes.</p>
<p>Prevention and Mitigation truly do occur in different time frames. The requirement has been modified to clearly indicate that the RA is trying to prevent or mitigate exceeding IROLs.</p>	
<p><b>Yes – Other comments</b></p>	
<p>Albert M. DiCaprio MAAC #2</p>	<p>Yes As written this requirement mandates the RA to take action (while at the same time leaving the procedures, services and processes up to the individual RAs). The requirement also allows preventive and well as corrective actions to be taken</p>
<p>This is what was intended. Several commenters suggested improvements to clarify what was intended and they have been incorporated into the revised standard.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>Yes We do support this requirement, but have concern about the type of documentation that is contemplated. This may need to connect back to the work of the OLDTF and what is reportable or not. We would not support keeping a lot of documentation for things that are not reportable. Documentation can be costly and we do not favor doing it unnecessarily. Regions may already have documentation requirements so we would like to see more details on what is envisioned here.</p>

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In this requirement, the RA must document the actions or directives issued to prevent or remedy the situation. This requirement was revised to add a measure that requires completing an IROL violation report for each instance of exceeding an IROL for a time greater than or equal to the IROL's T<sub>v</sub>. These requirements are different from those proposed by the OLDTF. The OLDTF does not have a T<sub>v</sub> for each IROL – instead the OLDTF proposes reporting each incident where an IRL is exceeded for 30 minutes.

OLDTF (9?) 6 - #2 1 - #1,5	Yes Agrees with OLDTF report.
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There are some differences between what is being proposed and what was proposed by the OLDTF, however conceptually they are very similar.

Alan Johnson Mirant #6 Bob Burkard NCMPA1 # 3,4,5 Darrel Richardson Illinois Power #1, 3 Dilip Mahendra SMUD #1 Francis Halpin BPA Bus Line #5,6 Fred Frederick Vectren #3 Gerald Rheault Manitoba #1,3,5,6 Joe Minkstein PG&E #5 John Blazekovich Exelon #1,3,5,6 Joseph Buch Madison #4 Karl Kohlrus CWL&P #5 Kim Warren IMO #2 Lee Westbrook Oncor #1 Lloyd Linke MAPP #2 Mike Miller Southern Co #1 Richard Kafka Pepco #1 Roger Green Southern Co #5 Roman Carter So Co Gen 3,5,6 (6 members) Sam Jones ERCOT #2 Stuart Goza TVA #1 Tom Petrich (5) PG&E #1 Tony Jankowski We-Energies #4	Yes
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**33. Requirement 12 – Do you agree with these levels of non-compliance for this requirement?**

<p><b>Original Levels of Non-compliance</b></p> <ol style="list-style-type: none"> <li>1. Not Applicable</li> <li>2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred</li> <li>3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred</li> <li>4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system</li> </ol>
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<p><b>Revised Levels of Non-compliance</b></p> <ol style="list-style-type: none"> <li>1. <b>Interconnection reliability operating limit exceeded and no documentation to indicate actions taken or directives issued to mitigate the instance</b></li> <li>2. <b>Not applicable</b></li> <li>3. <b>Not applicable</b></li> <li>4. <b>Interconnection reliability operating limit exceeded for time greater than or equal to <math>T_v</math> minutes</b></li> </ol>
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**Summary Consideration:**

The levels of non-compliance have been revised to insure that there are distinguishable differences between all levels. There was a typographical error in the first draft of the standard that made levels 2 and 3 identical.

<b>No – Comments indicating Levels 2 and 3 are the same</b>	
FRCC 6-#1, 4-#2, 1-#2	No We are not sure what the difference is between level 2 and level 3. Also, if the RA gave direction to a TOP or BA to implement a mitigation plan, and the TOP or BA did not do it in time, who would the non-compliant party be? The RA's responsibility it to monitor and take action, which could be giving direction to some other entity, so it would seem like the noncompliance levels need to focus on did the RA do what they should do, or not.
<p>There was a typographical error in the first draft of the standard and there was no difference between Levels 2 and 3.</p> <p>The intent is to hold the RA responsible for achieving the goal of protecting the integrity of the interconnected bulk transmission system. The RA has many options at its disposal, and if the RA doesn't execute those options in time to prevent instability, uncontrolled separation or cascading outages that affect the reliability of the bulk transmission system, the RA should be held accountable.</p>	
Alan Boesch NPPD #1	No What is the difference between two and three? If it is the difference between documenting and reporting a violation (the amount of time over the limit), this needs to be clarified in the standard. The items in No. 4 need to be expanded based on comments to question No. 10.
<p>There was a typographical error in the first draft of the standard and there was no difference between Levels 2 and 3.</p>	

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Sam Jones ERCOT #2OLDTF (9?) 6 - #2 1 - #1,5	No Level 2 and 3 appear to be the same.
There was a typographical error in the first draft of the standard and there was no difference between Levels 2 and 3.	
John Blazekovich Exelon #1,3,5,6	No Do not understand the difference between items 2 & 3 – clarification is needed.
There was a typographical error in the first draft of the standard and there was no difference between Levels 2 and 3.	
Thomas Pruitt Duke #1	No What is the difference between levels 2 and 3?
There was a typographical error in the first draft of the standard and there was no difference between Levels 2 and 3.	
Kathleen Goodman ISO NE #2	No Levels two and three appear to be identical.
There was a typographical error in the first draft of the standard and there was no difference between Levels 2 and 3.	
Tom Petrich (5) PG&E #1	No Non-compliance Levels 2 and 3 do not seem reasonable. For example, during emergencies, the correct action may be “no action”. In any case, if no limit violation has occurred, what is the basis of the “non-compliance”. They should be changed to “not applicable”.
The standard has been revised to recognize that “no action” is a definite, definable action. The RA is required to act or direct others to act based on the results of analyses. If an RA ignores the results of an analysis and no violation occurs, the RA hasn’t met all of the requirements in this standard, and there should be some penalty.	
No – Comments indicating levels of non-compliance inappropriate	
Todd Lucas (6?) Southern Co #1	No The levels of compliance should be tailored to the requirement for notification by the RA to prevent/mitigate OSLVs and/or instability, uncontrolled cascading, etc. Consideration should be given to combining requirements 12 & 14.
This is an issue that has arisen in other standards as well. Under the Functional Model, the RA has ultimate responsibility for reliability and needs to take whatever action needed to protect the reliability of the interconnected bulk electric system. We will ask the industry for feedback on this position. The recommendation that requirements 12 and 14 be combined may be adopted in the third draft of this standard. There were so many suggestions for revisions, that the SDT felt another posting with the requirements separated would be helpful before trying to combine the requirements.	
Gerald Rheault Manitoba #1,3,5,6	No The issue should not be one of violation not occurring because the contingencies considered didn’t happen. The issue should be one of risk and recognition of the impacts of the contingencies such that operation must be to limits based on these contingencies.

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<p>The standard has been revised to add more emphasis to preventing instances of exceeding IROLs. The standard The standard has been revised to recognize that “no action” is a definite, definable action. The RA is required to act or direct others to act based on the results of analyses. If an RA ignores the results of an analysis and no violation occurs, the RA hasn’t met all of the requirements in this standard, and there should be some penalty.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>No These compliance measures do not recognize the accommodation and coordination with market mechanisms to achieve the reliability objective.</p>
<p>The standard is intended to define what must be accomplished – it will not address how to accomplish operating within limits.</p>	
<p>Joseph Buch Madison #4</p>	<p>No Level 4 as presently defined indicates that instability, uncontrolled separation or cascading outages have already occurred. This might be akin to locking the barn after the horse is out. We should be a level 4 if the potential exists, not after it happened.</p>
<p>The other levels of non-compliance are intended to be severe enough that they encourage compliance.</p>	
<p>Ray Morella Joanne Borrell Ed Stein FirstEnergy #1, 3, 6</p>	<p>No We agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. We don’t think that the Reliability Coordinator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action.</p>
<p>This is an issue that has arisen in other standards as well. Under the Functional Model, the RA has ultimate responsibility for reliability and needs to take whatever action needed to protect the reliability of the interconnected bulk electric system. We will ask the industry for feedback on this position.</p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No I agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. I don’t think that the Reliability Coordinator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action. For instance, if the Reliability Coordinator ordered a Balancing Authority to drop load because of low or declining frequency and the Balancing Authority did not drop the load, then the level 4 non-compliance should be charged to the Balancing Authority not the Reliability Coordinator.</p>
<p>This is an issue that has arisen in other standards as well. Under the Functional Model, the RA has ultimate responsibility for reliability and needs to take whatever action needed to protect the reliability of the interconnected bulk electric system. We will ask the industry for feedback on this position.</p>	
<p><b>No – Comments indicating requirement is inappropriate</b></p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>No NERC does not have the authority to require RAs to take action on TSP equipment for which they are not allowed to have functional control</p>
<p>These new reliability standards are being drafted in support of the Functional Model. Under the Functional Model, the reliability authority has responsibility for protecting the reliability of the transmission system – and the transmission operator has responsibility for protecting the reliability of local networks. SCE&amp;G may serve as both an RA and a TSP – this is totally acceptable under the Functional Model. If this is true, there is no conflict with the requirements imposed by the South Carolina PSC.</p>	
<p>Doug Hills Cinergy #1</p>	<p>No Level four as needs to be rewritten to only include action not taken on the part of the RA and exclude items outside control.</p>

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<p>This is an issue that has arisen in other standards as well. Under the Functional Model, the RA has ultimate responsibility for reliability and needs to take whatever action needed to protect the reliability of the interconnected bulk electric system. We will ask the industry for feedback on this position.</p>	
<p><b>No – Comments indicating addressing non-compliance is premature</b></p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No It is premature to develop compliance levels at this time.</p>
<p>It is important that entities responsible for compliance understand the ramifications of compliance as well as the standard itself. The standard, therefore, will contain compliance requirements along with the standard itself. This principle is inherent in the development of all new standards.</p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No Question 32 needs to be addressed and resolved before the levels of non-compliance can be determined.</p>
<p>The associated requirement was adjusted to differentiate between 'mitigation and prevention'.</p>	
<p>Ed Riley CA ISO #2</p>	<p>No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p><b>No – Mix of comments</b></p>	
<p>Peter Burke ATC #1</p>	<p>No Should entities be penalized for things that might have happened but didn't? How much faith do we place in analysis results? If an overload would have been 1% over rating and nothing happened, is that a problem. 5%? 10%? If something happens, some type of penalty/written reprimand should be issued with a lesson learned follow-up to make sure it does not happen again. Hopefully a system isn't created that discourages people from reporting problems to avoid fines and thereby miss the opportunity to analyze a problem to prevent it in the future.  Level 3 non-compliance doesn't appear to be different from level #2.  Level 4 non-compliance should forgive extraordinary and severe causes as follows: System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system without the influence of severe storms, sabotage, or other extraordinary conditions.</p>
<p>System Operators rely upon the results of analyses to support their actions. If the analyses are suspect, then the System Operators need to gather additional data to support whatever operating decisions are made.  There was a typographical error in the first draft of the standard that made levels 2 and 3 identical. The intent of the differences between levels 2 and 3 has been clarified in the revised standard.  The suggestion for excluding extraordinary situations has not been adopted. The SDT sought legal advice on including this language in each standard and the recommendation was to handle those unique situations with special exemptions or waivers.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No Level 2 states "no actions or incorrect actions were taken . . ." The determination that the RA's actions were incorrect would be by after the fact analysis performed by whom? Additionally, would it be necessary to determine whether the actions taken were due to gross negligence or due to an "honest" error or</p>

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	<p>misinterpretation of the data? Would non-compliance sanctions differ based upon gross negligence vs. honest error?</p> <p>We are not sure what the difference between Level 2 and Level 3 is. Please clarify.</p> <p>Some “what ifs”: What if the system operating limit (SOL) was violated and thus the bulk transmission system was at risk but actual instability, uncontrolled separation, or cascading outages did not occur? What level of non-compliance should this be?</p> <p>What if the SOL was violated, and the RA had directed the TOP and/or BA to take action but the TOP and/or BA did not take the action? As stated above, the RA is non-compliant. But, in reality the TOP and/or BA should be found non-compliant.</p> <p>What if the SOL is violated, and the RA has directed the TOP and/or BA to take action, and they are in the midst of taking that action, but prior to the action being fully implemented, instability, uncontrolled separation or cascading outages occur? Is anyone non-compliant and if so at what level?</p>
<p>See summary consideration. The standard was modified to recognize that “no action” is a definite, definable action.</p> <p>This standard has another requirement that includes having specific action plans to follow (or to direct others to follow) to prevent exceeding IROLs or to return to an operating state where an IROL isn’t exceeded. These action plans can be reviewed against operating logs and other documents to see if they were followed. In the revised standard, the requirements to monitor, analyze, and direct actions are combined into a single requirement.</p> <p>There was a typographical error in the first draft of the standard that made levels 2 and 3 identical. The intent of the differences between levels 2 and 3 has been clarified in the revised standard.</p> <p>The issue of penalizing the RA if it directed others to take actions but there was still an IROL violation that led to instability, etc. is an issue that has arisen in other standards as well. We will highlight this issue and ask the industry for feedback.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No</p> <p>In general, this requirement is somewhat subjective and difficult to quantify. Operators will become unnecessarily conservative in order to meet this requirement.</p> <p>Also, levels 2 and 3 of non-compliance must be revised, they are exactly the same.</p> <p>Level 2 should read something like – “Monitoring and/or reliability analyses identify a potential problem – no actions, or incorrect actions, were taken but no limit violation “.</p> <p>Level 3 should read something like – “Monitoring and/or reliability analyses identified a problem, actions were taken but were not sufficient to mitigate the problem, but no instability, uncontrolled separation or cascading outages occurred.</p> <p>Level 4 seems OK.</p>
<p>There was a typographical error in the first draft of the standard that made levels 2 and 3 identical. The levels of non-compliance were adjusted to separate out reporting from an IROL violation. There is a minor sanction for not owning up to the violation – and a more severe sanction for actually violating the limit. Assessments of the correctness of actions taken may be very difficult to assess unless they are blatant.</p>	
<p><b>No – Comments indicating additional clarification needed</b></p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5</p>	<p>No</p> <p>It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be</p>

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David Kiguel Hydro One #1	made whether these levels are appropriate. Further clarification is requested regarding the difference between violation and limit violation.
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p> <p>The language in the revised standard distinguishes between violations that must be documented and those that must be reported. As revised, only those violations that have a duration that is equal to or greater than the IROL's <math>T_v</math> must be reported to the compliance monitor.</p>	
Vern Colbert Dominion #1 Fred Frederick Vectren #3	No
<b>Yes – Mix of comments</b>	
Toni Timberman BPA #1	<p>Yes/No</p> <p>Suggest revising as follows:</p> <ul style="list-style-type: none"> <li>(6 Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no reportable violations occurred</li> <li>(6 Monitoring and/or reliability analyses identified a problem – correct action was taken but not to the extent necessary. Reportable violation occurred.</li> <li>(6 Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken. Reportable violation occurred</li> </ul> <p>4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system</p>
<p>The levels of non-compliance were adjusted to separate out reporting from an IROL violation. There is a minor sanction for not owning up to the violation – and a more severe sanction for actually violating the limit. Assessments of the correctness of actions taken may be very difficult to assess unless they are blatant.</p>	
<b>Yes – Comments suggesting additional clarification</b>	
Richard Schwarz PNSC #2	<p>Yes</p> <p>Levels of non-compliance should measure whether or not the RA identified a reliability problem, were actions (correct or incorrect) taken, and did a reportable violation occur</p>
<p>The levels of non-compliance were adjusted to separate out reporting from an IROL violation. There is a minor sanction for not owning up to the violation – and a more severe sanction for actually violating the limit. Assessments of the correctness of actions taken may be very difficult to assess unless they are blatant.</p>	
Tony Jankowski We-Energies #4	<p>Yes</p> <p>#2 should state that a system operating limit was exceeded, but no violation. #3 should state that a system operating limit violation occurred.</p>
<p>The levels of non-compliance were adjusted to separate out reporting from an IROL violation. There is a minor sanction for not owning up to the violation – and a more severe sanction for actually violating the limit. This standard's purpose is to prevent violating an IROL – if an IROL is exceeded it may have a severely negative impact on the reliability of the interconnection – and should have a Level 4 sanction.</p>	
Albert M. DiCaprio MAAC #2	<p>Yes</p> <p>There is a definite need here to recognize that NO ACTION “can be” a definitive activity (ergo not to be held as a non-compliance indicator)</p>

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The standard was modified to recognize that “no action” is a definite, definable action.	
Lloyd Linke MAPP #2	Yes “Problem” is too vague. Also, this should not be tied solely to instability, uncontrolled separation, or cascading... other operating limits also need to be consistently adhered to.  System Operating Limit should be in caps to be consistent with the definition on page 2.
The standard has been modified to clarify that ‘problem’ means an IROL violation. The scope of this standard must remain within the scope of the approved SAR. The purpose of this standard is to prevent instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. The format adopted for new Reliability Standards limits capitalization to proper nouns.	
Yes – Comments suggesting Levels 2 and 3 are identical	
Darrel Richardson Illinois Power #1, 3	Yes We agree with the levels, however we are curious as to the difference between Level 2 and Level 3. If these mean the same, then one should be eliminated. Perhaps there should be a definition of both a “limit violation” and “violation”.
There was a typographical error in the first draft of the standard that made levels 2 and 3 identical.	
Francis Halpin BPA Bus Line #5,6	Yes But...is there really a substantive difference between level 2 and level 3? Should three read “..no reportable violation occurred”????
There was a typographical error in the first draft of the standard that made levels 2 and 3 identical.	
Kim Warren IMO #2	Yes A more descriptive or clearer definition is required to differentiate between level 2 and level 3.
There was a typographical error in the first draft of the standard that made levels 2 and 3 identical.	
Alan Johnson Mirant #6 Bob Burkard NCMAPA1 # 3,4,5 Dilip Mahendra SMUD #1 James Stanton Calpine #5 Joe Minkstein PG&E #5 Karl Kohlrus CWL&P #5 Mike Miller Southern Co #1 Richard Kafka Pepco #1 Roman Carter So Co Gen 3,5,6 (6 members) Stuart Goza TVA #1 William Smith Allegheny Pwr #1	Yes

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**34. Requirement 13 – Do you agree with this requirement and its associated performance/outcome and measure/s?**

<p><b>Original Requirement</b></p> <p>The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses to take actions necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>The TOP shall document actions taken.</p> <p><b>Measure(s)</b></p> <p>Documentation showing that actions were taken to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p><b>Outcome(s)</b></p> <p>The TOP shall document actions taken to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p>
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**Revised Requirement: None**

**Summary Consideration:**

Based on the comments submitted and a review of the Functional Model, the SDT removed this requirement from this standard.

Under the Functional Model, this requirement is assigned solely to the RA. The TOP is responsible for local network integrity, not the integrity of the interconnected bulk electric system. The TOP works under the direction of the RA.. Here is a subset of what is included for the TOP in the Functional Model:

- Provides local network integrity by defining operating limits, developing contingency plans, and monitoring operations
- Operates transmission system facilities under direction of the Reliability Authority
- Requests Reliability Authority to mitigate Operating Reliability Limit violations. (e.g., re-dispatch, transmission loading relief)
- Implements reliability measures as directed by Reliability Authority

<b>No – Comments indicating requirement is inappropriate</b>	
Toni Timberman BPA #1	No TOP has no responsibility for the bulk transmission system. Functional Model says that “Transmission Operator under the Reliability Authority’s direction can take action, such as implementing voltage reductions, to help mitigate an Energy Emergency.” This does not indicate that the TOP can react unilaterally based on real-time monitoring or reliability analyses.
This requirement was removed from this standard.	
Albert M. DiCaprio MAAC #2	No This is an RA responsibility. Of course the RA may assign that function to the TOP (but in the end the RA is still the responsible party)
This requirement was removed from this standard.	
Alan Johnson	Question whether this is fully compliant with the Functional Model. Shouldn’t the

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Mirant #6	TOP take direction from the RA regarding the implementation of reliability matters? Or does it take direction from the RA and have the responsibility to act independently and report its actions to the RA?
This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.	
Compliance Managers	RA does analysis of power system. The TOP shall implement actions in very few cases (line switching control actions and load shedding). If the TOP is to held to this requirement then there better be one for each of the other entities that the RA directs to take action (BA, IA, Generator Operators, LSE, etc.)  Delete this requirement
This requirement was removed from this standard.	
No – Comments suggesting requirement needs modification	
Susan Morris SERC #2 Thomas Pruitt Duke #1 Robert Reed TS (See List)	No See 32. How are conflicting results from an RAs analysis vs. the TOPs analysis to be resolved?  <i>{ Should not combine the terms “prevention” and “mitigation” in the same requirement/measure unless the language is clear to eliminate potential ambiguity. Prevention and mitigation are actions that may be undertaken in two different timeframes. Without clear language, the requirement/measure should be separated into two separate requirements to address the prevention and mitigation as separate issues.  (SERC Only: This requirement and requirement 14 should be combined and rewritten to require that the RA have procedures in place that specifies actions needed to preserve reliable operation of the system.)}</i>
This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.	
Vern Colbert Dominion #1	No See #32. The TOP should resolve an identified problem with the cooperation of the RA.  <i>{ RA should prevent an identified problem beforehand. He can only mitigate when there is an actual emergency.}</i>
This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system. Note that the revised requirement for the RA does distinguish between mitigation and prevention.	
Charles Yeung Reliant Energy #6	No It is unclear what the relationship and responsibilities of the TOP are as compared to the RA. The Standard proposes the same language for both functions. What is the reporting relationship and operational hierarchy between the RA and the TOP? Is the TOP analysis more “local” in nature than the RA analysis? What if each one’s analysis does not agree? Which analysis will prevail to ensure grid reliability?
This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.	
FRCC 6-#1, 4-#2, 1-#2	No See our comment on requirement 4.  <i>{ In requirement 3, the RA has already determined what data it needs for reliability analyses and system monitoring. It appears to be redundant to have the TOP do the same thing.</i>

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	<p><i>Would it be more appropriate for the TOP to have a requirement to provide the requested data to the RA and then be measured in how they perform that?}</i></p> <p>Again, this seems redundant to what the RA is doing via requirement 12. It would seem more appropriate to have the TOP have a requirement to work with the RA in providing mitigating plans and taking actions as directed by the RA.</p>
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p> <p>The system operating limits addressed in this standard are under the responsibility of the RA, so all duplicate requirements assigned to the TOP have been eliminated from the revised standard.</p>	
<p>William Smith Allegheny Pwr #1</p>	<p>No</p> <p>Requirement 212 and 213 are very similar. Requirement 212 applies to Reliability Authorities and requirement 213 applies to Transmission Operators. There should be some coordination so that the two entities don't take different actions.</p>
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p>	
<p>Ray Morella Ed Stein Joanne Borrell FirstEnergy #1, 3, 6</p> <p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>Requirements 212 and 213 are very similar. Requirement 212 applies to Reliability Coordinators. Requirement 213 applies to Transmission Operators. The requirements are duplicative. The standard should require actions be taken to prevent/mitigate identified problems by either the Reliability Coordinator or the Transmission Operator, but not both of them. It should be clear in the agreement between the Transmission Operator and their Reliability Coordinator who has authority to take the action to correct or mitigate a problem. Having two different entities responsible to take action to correct a problem is troublesome. The possibility exists that the two entities may decide on different courses of action to solve the problem. Valuable minutes may be squandered by the two different entities attempting to coordinate actions. Only one entity should have the responsibility to take action and that responsibility needs to be clearly delineated.</p>
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p> <p>The authority between the RA and the TOP should be addressed as part of the certification for both the RA and the TOP. As envisioned, the certification requirements would include a written document that identifies the authorities of the RA and the TOP with respect to one another.</p>	
<p>Sam Jones ERCOT #2 OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>Yes/No</p> <p>This Requirement does not adequately address the coordination that must take place between the TOP and the RA. Furthermore, the TOP may not include a wide enough scope to determine these limits.</p>
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No</p> <p>Comments to Requirement 12 apply here also.</p> <p><i>{This requirement should be revised to clearly separate “prevent” and “mitigate” identified problems. This is also difficult to quantify. Suppose a next-hour contingency analysis is run based on expected load and generation and it shows a slight post-contingent overload. Then, the weather changes in the area of the overload, causing no overload (projected post-contingent) in real-time. Was this a Level 3 violation? The RA should forecast problems and observe the trajectory</i></p>

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	<i>of the trends and then determine the appropriate course of action or inaction as the case may be.}</i>
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.          Note that the revised requirement for the RA does distinguish between mitigation and prevention.</p>	
Ed Riley CA ISO #2	<p>No</p> <p>See response to question #28.</p> <p><i>{ The types of reports that would be needed to identify “problems that could cause instability, uncontrolled separation or cascading outages . . . “ are not done quickly, making it difficult to perform them in real-time. The wording of the Requirement sounds like these would be required in real-time, and it is not possible for a RA to complete them in this time-frame.}</i></p>
<p>The requirement for performing analyses was revised to clarify what was meant by ‘reliability analyses’. The term ‘reliability analysis’ was replaced with operational planning analyses and real time assessments – with different measures for each of these types of assessments.</p>	
Doug Hils Cinergy #1	<p>No</p> <p>Needs to be rewritten to include only lack of action on the part of the TOP.</p>
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p>	
David Kiguel Hydro One #1	<p>No</p> <p>It should be noted that prevention and mitigation are actions that may be undertaken in two different timeframes. Please see our comments under item # 44 (Regional and Interconnection Differences).</p> <p><i>{There are differences in some Areas. For example, in Ontario the IMO is solely responsible to determine operating limits and to direct the operation of the IMO-Controlled Grid within these limits. The Transmission owners/operators operate thir respective systems under the IMO’s direction. They only provide the IMO with equipment ratings which the IMO must respect. The transmission operators do not determine operating limits or monitor/report their compliance.</i></p> <p><i>The standard should reflect jurisdictional differences in the responsibilities assigned to the RA and TOP in some areas. }</i></p>
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.          Note that the revised requirement for the RA does distinguish between mitigation and prevention.</p>	
Raj Rana AEP #1,3,5,6	<p>No</p> <p>We believe having the duplicity of Requirement #12 and #13 is dangerous and could impede system reliability. The NERC reliability standards need to be clear where the authority resides. Having duplicate requirements for the RA and the TOP implies neither has the final say. The RA should and must have the final say. This requirement for the TOP needs to be reworded to show their subordinate role to the RA. The TOP shall follow the directives of the RA in order to prevent/mitigate identified problems.</p> <p>How does this requirement fit with the current NERC TLR process?</p> <p>Should the concern be limited to monitoring only those levels of thermal overloads and/or voltage conditions that lead to catastrophic events?</p> <p>Suggested revisions:</p> <p><b>Requirement 13:</b>          The Transmission Operator (TOP) shall use the results of real time monitoring and/or reliability analyses <b>performed by either the RA or TOP</b>, to take actions <b>or follow</b></p>

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	<p><b>directives of the RA</b> as necessary to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>The TOP shall document actions taken.</p> <p><b>Measure(s):</b></p> <p>Documentation showing that actions were taken <b>or RA directives followed</b> to prevent/mitigate identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p><b>Outcome(s) (100% Compliance):</b></p> <p>The TOP shall document actions taken <b>or RA directives followed</b> to mitigate/prevent identified problems that could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p>
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p> <p>The revised requirement for the RA clearly indicates that the RA may act or may direct others to act.</p> <p>The purpose of this standard is to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. The SDT interpreted this to mean that this standard should focus on those system operating limits that, if exceeded, would lead to instability, uncontrolled separation or cascading outages.</p> <p>TLR is a procedure. This standard does not reference or require the use of any specific procedure.</p> <p>The scope of the SAR , as identified in its purpose, indicates that this standard will be limited to those limit violations that could lead to catastrophic events.</p> <p>Another requirement was added to this standard that addresses your concern about requiring the TOP to follow the RA's directives. The new requirement is for the TOP, IA, and BA and requires them to follow the RA's directives relative to IROLs.</p>	
<p>Richard Kafka Pepco #1 Fred Frederick Vectren #3</p>	<p>No</p>
<p><b>Yes – Comments indicating need for additional clarifications</b></p>	
<p>Alan Boesch NPPD #1</p>	<p>Yes/No</p> <p>The measures and outcomes should be related to violating System Operating Limits and not be limited to instability, uncontrolled separation ore cascading outages. See comments to question no. 10 above.</p>
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p>	
<p>Kim Warren IMO #2</p>	<p>Yes/No</p> <p>Yes ,only if it is recognized that in some jurisdictions, the TOP may be the same entity as the RA but does not necessarily perform all of the roles(eg. Switching,maintenance,outage &amp; construction notification) that the Functional Model defines for the TOP.</p> <p>Where the RA and the TOP are different, there needs to be a clear distinction of which system limits each are accountable for. This document should be reworked to be consistent with the recently issued OLD TF report.</p>

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<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p> <p>The work of the OLDTF was considered in the revisions to this standard. While the concepts in the OLDTF report are very similar to the objectives of this standard, there are some significant differences.</p> <p>The SDT is doing its work as part of an open standards development process and will utilize the work of the OLDTF to the extent that its work is available and is submitted in response to public postings of the draft standard. The SDT will not wait for the OLDTF or any other group to complete its work.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>Yes/No</p> <p>The reference to prevent is related to real time monitoring and mitigate is related to operational planning analysis ? These requirements should be made clear.</p>
<p>This requirement was removed from this standard.</p> <p>In the revised standard's requirement for the RA, there is a much more clear distinction between conducting operational planning analyses and real-time assessments.</p>	
<p>Peter Burke ATC #1</p>	<p>Yes</p> <p>This could be worded more carefully to describe "documentation" that is reasonable and applicable in the normal course of business without being open to an interpretation requiring extraordinary and unreasonable documentation.</p> <p>There is a need for the TOP to take actions, however, the TOP should coordinate with the RA, where possible. The level of documentation should not be as rigid as that applied to the RA.</p> <p>Referring to similar comments in reply to question 12, a basic analysis tool set (SE, SA, and PF) should be running at the TOP shop. The more advanced tools like voltage stability, transient stability, etc. may be better suited to the RAs. The TOP may be the primary party responsible for maintaining reliable operation of the transmission system and, as such, should document steps taken to prevent problems using the available diagnostic tools. This does not include instability, or uncontrolled separation as these would be identified by more advanced tools first.</p>
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p> <p>The documentation required has been more clearly identified in the revised requirement for the RA. The intent is to have enough documentation available to show what happened, without requiring a lot of additional work.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5</p>	<p>Yes</p> <p>It should be noted that prevention and mitigation are actions that may be undertaken in two different timeframes.</p>
<p>This requirement was removed from this standard.</p> <p>In the revised standard's requirement for the RA, there is a much more clear distinction between conducting operational planning analyses and real-time assessments.</p>	
<p>John Blazekovich Exelon #1,3,5,6</p>	<p>Yes</p> <p>Although we agree with the need for the requirement we find the wording of this requirement to be somewhat ambiguous. The wording suggests that the RA or TOP will not take action unless instability or cascading outages are at risk. We believe that the intent should be to analyze "Planned for Contingencies" and identify problems, including equipment overloads above emergency limits, if any are found, but the wording does not state this.</p>
<p>This requirement was removed from this standard.</p> <p>In the revised standard's requirement for the RA, there is a much more clear distinction between conducting operational planning analyses and real-time assessments.</p>	

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Kathleen Goodman ISO NE #2	Yes Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p> <p>The identical requirement for the RA has been revised to make a more clear distinction between prevention and mitigation. The revised standard focuses more on the use of the results of analyses than on which type of analysis presented the RA with the data it needed to take action.</p>	
Gerald Rheault Manitoba #1,3,5,6	Yes Manitoba Hydro believes that TOP actions should be subject to RA oversight and approval for any actions that are identified as possibly adversely impacting the reliability of the bulk transmission system.
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p>	
Francis Halpin BPA Bus Line #5,6	Yes The and/or language implies that monitoring is sufficient and other more sophisticated analysis tools are optional. This is appropriate language which will allow smaller TOP's to be compliant.
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p> <p>Some commenters disliked the and/or and this was changed to distinguish between mitigation and prevention.</p>	
Tom Petrich (5) PG&E #1	Yes The TOP needs to take necessary actions to prevent equipment overloads as well.
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p> <p>The system operating limits addressed by the TOP are not the limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. The subset of system operating limits addressed in this standard (IROLs) are under the authority of the RA.</p>	
Stuart Goza TVA #1	Yes Action taken must be coordinated with RA.
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p>	
Todd Lucas (6?) Southern Co #1	Yes Need to clarify how conflicting results from an RAs analysis vs. the TOPs analysis will be resolved
<p>This requirement was removed from this standard. Under the Functional Model, the TOP takes direction from the RA regarding actions to protect the reliability of the transmission system.</p>	

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<p>Bob Burkard NCMPA1 # 3,4,5          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          James Stanton Calpine #5          Joe Minkstein PG&amp;E #5          Joseph Buch Madison #4          Karl Kohlrus CWL&amp;P #5          Lee Westbrook Oncor #1          Lee Xanthakos SCE&amp;G #1          Lloyd Linke MAPP #2          Mike Miller Southern Co #1          Roger Green Southern Co #5          Roman Carter So Co Gen 3,5,6 (6 members)          Tony Jankowski We-Energies #4</p>	<p>Yes</p>
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**35. Requirement 13 – Do you agree with these levels of non-compliance for this requirement?**

<b>Original Levels of Non-compliance</b>
1. Not Applicable
2. Monitoring and/or reliability analyses identified a problem – no actions or incorrect actions were taken but no limit violations occurred
3. Monitoring and/or reliability analyses identified a problem – no actions (or incorrect actions) were taken but no violation occurred
4. System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system

**Revised Levels of Non-compliance: None**

**Summary Consideration:**

Based on industry comments and additional review of the Functional Model, this requirement and its associated levels of non-compliance were removed from this standard.

<b>No – Comments indicating requirement is inappropriate</b>	
Toni Timberman BPA #1	No TOP does not have this responsibility
This requirement and its associated levels of non-compliance were removed from the standard.	
<b>No – Comments indicating levels 2 and 3 are the same</b>	
FRCC 6-#1, 4-#2, 1-#2	No Similar to our comments on question 33, not sure what the difference in level 2 and 3 are. Anyway, since we think the requirement itself needs to be changed, the noncompliance levels would need to be based on the revised requirement.
This requirement and its associated levels of non-compliance were removed from the standard. There was a typographical error in the first posting of this standard and there was no difference between levels 2 and 3.	
OLDTF (9?) 6 - #2 1 - #1,5 Sam Jones ERCOT #2	See response to Q 33. 2 and 3 appear to be the same. { Level 2 and 3 appear to be the same.}
This requirement and its associated levels of non-compliance were removed from the standard. There was a typographical error in the first posting of this standard and there was no difference between levels 2 and 3.	
Thomas Pruitt Duke #1	No What is the difference between levels 2 and 3?
This requirement and its associated levels of non-compliance were removed from the standard. There was a typographical error in the first posting of this standard and there was no difference between levels 2 and 3.	

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Kathleen Goodman ISO NE #2	No Levels two and three appear to be identical.
<p>This requirement and its associated levels of non-compliance were removed from the standard. There was a typographical error in the first posting of this standard and there was no difference between levels 2 and 3.</p>	
John Blazekovich Exelon #1,3,5,6	No Do not understand the difference between items 2 & 3 – clarification is needed.
<p>This requirement and its associated levels of non-compliance were removed from the standard. There was a typographical error in the first posting of this standard and there was no difference between levels 2 and 3.</p>	
Alan Boesch NPPD #1	No What is the difference between two and three? <input type="checkbox"/> <input type="checkbox"/> If it is the difference between documenting and reporting a violation (the amount of time over the limit), this needs to be clarified in the standard. The items in No. 4 need to be expanded based on comments to question No. 10. <input type="checkbox"/> <input type="checkbox"/>
<p>This requirement and its associated levels of non-compliance were removed from the standard. There was a typographical error in the first posting of this standard and there was no difference between levels 2 and 3.</p>	
George Bartlett Entergy Svcs 1	<p>No Comments to Requirement 12 apply here also. <i>{ In general, this requirement is somewhat subjective and difficult to quantify. Operators will become unnecessarily conservative in order to meet this requirement. Also, levels 2 and 3 of non-compliance must be revised, they are exactly the same. Level 2 should read something like – “Monitoring and/or reliability analyses identify a potential problem – no actions, or incorrect actions, were taken but no limit violation “.</i> <i>Level 3 should read something like – “Monitoring and/or reliability analyses identified a problem, actions were taken but were not sufficient to mitigate the problem, but no instability, uncontrolled separation or cascading outages occurred. Level 4 seems OK.}</i></p>
<p>This requirement and its associated levels of non-compliance were removed from the standard. There was a typographical error in the first posting of this standard and there was no difference between levels 2 and 3.</p>	
<p><b>No – Comments indicating levels of non-compliance are inappropriate</b></p>	
Tom Petrich (5) PG&E #1	No Non-compliance Levels 2 and 3 do not seem reasonable. For example, during emergencies, the correct action may be “no action”. In any case, if no limit violation occurred, what is the basis of the “non-compliance”. They should be changed to “not applicable”.
<p>This requirement and its associated levels of non-compliance were removed from the standard. The revised requirement for the RA clearly indicates that taking ‘no overt action’ may be an acceptable action.</p>	
Todd Lucas (6?) Southern Co #1	No Need to clarify the difference between “limit violations” and “violations”. Non compliance should be structured around OSLVs.

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	<p>Clarification is needed for “no action”. There may be cases where taking no action is the appropriate response</p> <p>How will compliance be monitored for cases where no violations occur?</p> <p>Consideration should be given to combining requirements 13 &amp; 15.</p>
<p>This requirement and its associated levels of non-compliance were removed from the standard.</p> <p>The revised standard distinguishes between violations that must be documented and those that must be both documented and reported. Only violations that exceed their T<sup>v</sup> must be reported to the compliance monitor.</p> <p>The revised requirement for the RA clearly indicates that taking ‘no overt action’ may be an acceptable action.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>Same response as provided for Question 33.</p> <p><i>{Should entities be penalized for things that might have happened but didn't? How much faith do we place in analysis results? If an overload would have been 1% over rating and nothing happened, is that a problem. 5%? 10%? If something happens, some type of penalty/written reprimand should be issued with a lesson learned follow-up to make sure it does not happen again. Hopefully a system isn't created that discourages people from reporting problems to avoid fines and thereby miss the opportunity to analyze a problem to prevent it in the future.</i></p> <p><i>Level 3 non-compliance doesn't appear to be different from level #2.</i></p> <p><i>Level 4 non-compliance should forgive extraordinary and severe causes as follows: System operating limit violated and resulted in instability, uncontrolled separation or cascading outages that adversely impacted the reliability of the bulk transmission system without the influence of severe storms, sabotage, or other extraordinary conditions.}</i></p>
<p>This requirement and its associated levels of non-compliance were removed from the standard.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>Level 2 states “no actions or incorrect actions were taken . . .” The determination that the actions were incorrect would be by after the fact analysis performed by whom? Additionally, would it be necessary to determine whether the actions taken were due to gross negligence or due to an “honest” error or misinterpretation of the data or misinterpretation of the directive given by the RA? Would non-compliance sanctions differ based upon gross negligence vs. honest error?</p> <p>We are not sure what the difference between Level 2 and Level 3 is. Please clarify.</p> <p>Some “what ifs”: What if the system operating limit (SOL) was violated and thus the bulk transmission system was at risk but actual instability, uncontrolled separation, or cascading outages did not occur? What level of non-compliance should this be?</p> <p>What if the SOL was violated, and the RA had directed the TOP to take action but the TOP did not take the action? As stated above, this is either a level 2 or level 3 non-compliance. But, what if the RA directed the TOP and the BA to take action and the TOP took the action but the BA did not? The TOP is compliant and the BA should be found non-compliant. But, per the above, the TOP is non-compliant too because the SOL was violated.</p> <p>What if the SOL is violated, and the RA has directed the TOP and/or BA to take action, and they are in the midst of taking that action, but prior to the action being fully implemented, instability, uncontrolled separation or cascading outages</p>

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	<p>occur? Is anyone non-compliant and if so at what level?</p> <p>What if monitoring and/or reliability analysis identified a problem, and the RA directs the TOP to take specific action, but the TOP does not take the action? Does it matter whether the SOL was violated or not?</p>
<p>This requirement and its associated levels of non-compliance were removed from the standard.</p>	
<p>Joseph Buch Madison #4</p>	<p>No</p> <p>See comments on question 33.</p> <p><i>{ Level 4 as presently defined indicates that instability, uncontrolled separation or cascading outages have already occurred. This might be akin to locking the barn after the horse is out. We should be a level 4 if the potential exists, not after it happened.}</i></p>
<p>This requirement and its associated levels of non-compliance were removed from the standard.</p>	
<p>Ray Morella Joanne Borrell Ed Stein FirstEnergy #1, 3, 6</p>	<p>No</p> <p>I agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. I don't think that the Transmission Operator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action.</p>
<p>This requirement and its associated levels of non-compliance were removed from the standard.</p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>No</p> <p>I agree with Non-compliance levels 1, 2, and 3. Non-compliance level 4 is where I have a problem. I don't think that the Transmission Operator should be charged with a level 4 non-compliance when he took the action necessary to prevent the problem but some other entity did not take the necessary required action. For instance, if the Transmission Operator ordered a Balancing Authority to drop load because of low or declining frequency and the Balancing Authority did not drop the load, then the level 4 non-compliance should be charged to the Balancing Authority not the Transmission Operator.</p>
<p>This requirement and its associated levels of non-compliance were removed from the standard.</p> <p>Under the Functional Model, the TOP will not direct the BA to take action – directing the BA to take action is the responsibility of the RA.</p> <p>Although this requirement has been removed from this standard, it is important to note that the compliance section of each standard must relate to the same function(s) that are assigned the requirement and measures. If a standard assigns a requirement and its measures to one function, such as the RA, then the sanctions for non-compliance with the requirement and its measures must also be assigned to the RA.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>No</p> <p>See comment for #33.</p> <p><i>{ The issue should not be one of violation not occurring because the contingencies considered didn't happen. The issue should be one of risk and recognition of the impacts of the contingencies such that operation must be to limits based on these contingencies.}</i></p>
<p>This requirement and its associated levels of non-compliance were removed from the standard.</p>	
<p>No – Comments indicating addressing non-compliance is premature</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No</p> <p>It is premature to develop compliance levels at this time.</p>
<p>It is important that entities responsible for compliance understand the ramifications of compliance as well as the standard itself. The standard, therefore, will contain compliance requirements along with the standard itself. This principle is inherent in the development of all new standards.</p>	

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Susan Morris SERC #2 Robert Reed TS (See List)	No Question 34 needs to be addressed and resolved before the levels of non-compliance can be determined.
This requirement and its associated levels of non-compliance were removed from the standard.	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5  David Kiguel Hydro One #1	No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.  Further clarification is requested regarding the difference between violation and limit violation.
This requirement and its associated levels of non-compliance were removed from the standard. The revised standard uses a distinction between violations that must be documented and those that must be both documented and reported to the compliance monitor. Any instance of exceeding an IROL must be documented– any instance of exceeding an IROL for time greater than T <sub>v</sub> must be both documented and reported.	
Ed Riley CA ISO #2	No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.
It is important that entities responsible for compliance understand the ramifications of compliance as well as the standard itself. The standard, therefore, will contain compliance requirements along with the standard itself. This principle is inherent in the development of all new standards	
Albert M. DiCaprio MAAC #2 Fred Frederick Vectren #3 Vern Colbert Dominion #1 Richard Kafka Pepco #1	No
Yes – Comments indicating additional clarification is needed	
Lloyd Linke MAPP #2	Yes “Problem” is too vague. Also, this should not be tied solely to instability, uncontrolled separation, or cascading... other operating limits also need to be consistently adhered to.  System Operating Limit should be in caps to be consistent with the definition on page 2.
This requirement and its associated levels of non-compliance were removed from the standard. In the revised requirement for the RA, the word ‘problem’ is not used. Instead, additional language was added to clarify that the problem is exceeding an IROL. The format adopted for new reliability standards does limits capitalization to proper nouns.	
Yes – Comments indicating Levels 2 and 3 are the same	
Francis Halpin BPA Bus Line #5,6	Yes But...is there really a substantive difference between level 2 and level 3? Should three read “..no reportable violation occurred”????
This requirement and its associated levels of non-compliance were removed from the standard. There was a typographical error in the first draft of the standard that made levels 2 and 3 identical.	
Darrel Richardson	Yes

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Illinois Power #1, 3	We agree with the levels, however we are curious as to the difference between Level 2 and Level 3. If these mean the same, then one should be eliminated. Perhaps there should be a definition of both a “limit violation” and “violation”.
<p><a href="#">This requirement and its associated levels of non-compliance were removed from the standard.</a>  <a href="#">There was a typographical error in the first draft of the standard that made levels 2 and 3 identical.</a></p>	
Kim Warren IMO #2	Yes A more descriptive or clearer definition is required to differentiate between level 2 and level 3.
<p><a href="#">This requirement and its associated levels of non-compliance were removed from the standard.</a>  <a href="#">There was a typographical error in the first draft of the standard that made levels 2 and 3 identical.</a></p>	
Tony Jankowski We-Energies #4	Yes #2 should state that a system operating limit was exceeded, but no violation. #3 should state that a system operating limit violation occurred.
<p><a href="#">This requirement and its associated levels of non-compliance were removed from the standard.</a></p>	
Bob Burkard NCMPA1 # 3,4,5 Dilip Mahendra SMUD #1 Doug Hils Cinergy #1 James Stanton Calpine #5 Joe Minkstein PG&E #5 Karl Kohlrus CWL&P #5 Lee Xanthakos SCE&G #1 Mike Miller Southern Co #1 Roman Carter So Co Gen 3,5,6 (6 members) Stuart Goza TVA #1 William Smith Allegheny Pwr #1	Yes

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**36. Requirement 14 – Do you agree with this requirement and its associated performance/outcome and measure/s?**

**Original Requirement**

The Reliability Authority (RA) shall have a mitigation plan that includes actions to take to prevent and mitigate exceeding system operating limits.

**Measure(s)**

Mitigation plan/procedure(s) that identify actions the RA shall take to remain/return to a state that is within system operating limits.

**Outcome(s)**

The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)

**Revised Requirement**

The reliability authority shall have an action plan that identifies actions it shall take or actions it shall direct others to take, to prevent or mitigate instances of exceeding its interconnection reliability operating limits.

**Measure(s)**

The reliability authority shall have a documented action plan that addresses preventing and mitigating instances of exceeding interconnection reliability operating limits. The plan shall be coordinated with those entities responsible for acting and with those impacted by such actions.

- The action plan may be a process or procedure for preventing or mitigating instances of exceeding interconnected reliability operating limit violations. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to prevent and mitigate exceeding interconnected reliability operating limits.)

**Summary Consideration:**

Several commenters objected to use of the term, 'mitigation plan' and it was replaced with the term, 'action plan'. Additional language was added to clarify that the plan must address both preventing and mitigating instances of exceeding IROLs. The requirement was revised to clearly indicate that the RA may act or direct others to act.

Additional language was added to clarify that this requirement is only addressing the subset of system operating limits called, 'interconnection reliability operating limits'. The requirement that the plan be 'approved' was dropped because it was misleading. (The original intention was that the plan be formally signed by someone who worked for the RA. Use of the term, 'approved' led to several different conclusions and distracted from the intent of this requirement.) Additional language was added to confirm that existing processes or procedures may be considered action plans for this requirement.

Additional language was added to indicate that the action plan must be coordinated with the entities that either have to take actions as part of this plan or will be impacted by the plan.

The Outcomes section was removed from all standards.

<b>No – Comments indicating requirement needs clarification</b>	
FRCC	No

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6-#1, 4-#2, 1-#2	Mitigation plans of the TOP, BA etc. need to be understood and reviewed by the RA so that when limits are exceeded, the RA can direct actions that will return the system to a normal or safe operating state. The outcome statement says that the RA will have a documented, approved mitigation plan. Who is this mitigation plan to be approved by? This requirement is not very clear.
<p>The requirement has been modified to more clearly indicate that the RA must have an action plan that addresses both preventing and mitigating instances of exceeding IROLs.</p> <p>The requirement has been modified to remove the ‘approval’ element and to add a requirement that the action plan be coordinated with those who would be involved in the plans implementation.</p>	
Todd Lucas (6?) Southern Co #1	No Need clarification of the responsibilities. Mitigation plans are the joint responsibility of the RA, TOP, & TO and should be jointly developed
<p>The term, ‘mitigation plan,’ has been replaced with the term, ‘action plan’ – and the word, ‘approve’ has been removed from this requirement. The measures were modified to indicate that the action plan must be coordinated with those who would either be required to act as part of the plan, and with those who would be affected by the plan.</p>	
Sam Jones ERCOT #2OLDTF (9?) 6 - #2 1 - #1,5	No Re Outcomes: We believe that this should read “procedure or policy” to ensure “Operating within limits and associated mitigating actions are taken.” We don’t know how you can have a “documented, approved mitigation plan” for unknown contingencies. Furthermore, Requirement 14 is awkward – such a plan should be part of the Certification requirements, not this standard.
<p>The term, ‘mitigation plan,’ has been replaced with the term, ‘action plan’ – and the word, ‘approve’ has been removed from this requirement. The measures were modified to indicate that the action plan must be coordinated with those who would be required to act as part of the plan, and with those who would be affected by the plan, and to indicate that existing procedures may be used as an action plan.</p> <p>The Outcomes section has been absorbed into the measures.</p> <p>While the Certification Requirements look for certain plans and procedures to be in place, when an entity is certified to perform the RA function, that entity may not have had all the data needed to identify its IROLs.</p>	
Susan Morris SERC #2 Robert Reed TS (See List)	No The requirement can be enhanced. See the following comments as examples: <ul style="list-style-type: none"> <li>- It should be clarified that these plans need to include system intact and applicable prior-outage conditions.</li> <li>- It is only necessary to have a procedure in place that relieves the SOL violation. If a mitigation plan requires external approvals, then by whom? Will security constrained generation redispatch be an acceptable prevention or mitigation action?</li> </ul>
<p>The term, ‘mitigation plan,’ has been replaced with the term, ‘action plan’ – and the word, ‘approve’ has been removed from this requirement. The measures were modified to indicate that the action plan must be coordinated with those who would either be required to act as part of the plan, and with those who would be affected by the plan, and to indicate that existing procedures may be used as an action plan.</p> <p>The requirement was further refined to indicate that the purpose of the plan is to prevent and mitigate instances of exceeding IROLs.</p> <p>The use of a security constrained generation redispatch program may be part of an action plan, but would not, by itself, meet this requirement</p>	
Alan Johnson Mirant #6	No Agree in concept, but unclear as to who approves the mitigation plan and on what basis. Does it fall upon NERC to make these determinations?

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<p>The requirement here is that the RA have a plan. The term, 'mitigation plan,' has been replaced with the term, 'action plan' – and the word, 'approve' has been removed from this requirement. The measures were modified to indicate that the action plan must be coordinated with those who would either be required to act as part of the plan, and with those who would be affected by the plan, and to indicate that existing procedures may be used as an action plan.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>We agree with the intent of this requirement. However, the language of the requirement needs to be modified. First, the wording in Version A and Version B are different. Which is correct? Version B explicitly states the plan must be approved in the requirement section, whereas version A only mentions the plan needing to be approved in the levels of non-compliance section. If the mitigation plan is to be approved, then by whom? We would hope by the Regions. Second, is it intended that this Plan replace the Region and/or RA Reliability Plans? Is this Plan just a section of those Plans? If so, isn't this part of the organizational requirement of the RA and thus covered elsewhere?</p> <p>Third, how detailed do you want these plans? Are they just to state the congestion management procedures available to the RA, such as redispatch (LMP) and NERC TLR procedures? The requirement seems too vague as worded. Based upon what is expected to be included in reliability analysis under previous requirements in this document, it seems unreasonable to expect that all problems can have a one size fits all scenarios solution (mitigation plan). It does seem reasonable that the RA have a plan that states their congestion management practices and tools available. But that should be a requirement of be certified as a RA.</p> <p>Define "mitigation plan".</p>
<p>Version A/Version B distinction will disappear in the next draft. This standard will not assign requirements to regions. Responsibility for the plan rests with the RA.</p> <p>The term, 'mitigation plan,' has been replaced with the term, 'action plan' – and the word, 'approve' has been removed from this requirement. The measures were modified to indicate that the action plan must be coordinated with those who would either be required to act as part of the plan, and with those who would be affected by the plan, and to indicate that existing procedures may be used as an action plan. Additional language was added to clarify that the action plan must address what actions the RA will take or direct others to take to prevent and mitigate instances of exceeding its interconnection reliability operating limits.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>It is unreasonable to expect there will be a documented mitigation plan for everything. A storm or other cause of combined events can result in unanticipated or extremely rare outage scenarios. Lack of documentation for such scenarios need not be a hindrance since an experienced operator can promptly devise an effective mitigation plan. However, producing and maintaining documentation for all such scenarios would be burdensome and inefficient.</p> <p>Will it be possible to keep a mitigation plan matrix up to date and get necessary approvals in a timely fashion?</p> <p>Who will approve the mitigation plan?</p>
<p>The term, 'mitigation plan,' has been replaced with the term, 'action plan' – and the word, 'approve' has been removed from this requirement. The measures were modified to indicate that the action plan must be coordinated with those who would either be required to act as part of the plan, and with those who would be affected by the plan, and to indicate that existing procedures may be used as an action plan. The action plan must address what actions the RA will take or direct others to take to prevent and mitigate instances of exceeding its IROLs. It is not the intention that the action plan address every possible scenario.</p>	

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<p>Gregory Campoli NY ISO #2</p>	<p>No We are unclear as to who should be approving a mitigation plan. Procedures should be identified that include mitigation plans. The requirement should be changed to reference procedures not mitigation plans.</p>
<p>The term, 'mitigation plan,' has been replaced with the term, 'action plan' – and the word, 'approve' has been removed from this requirement. The measures were revised to indicate that existing processes or procedures can be used as an action plan for this requirement.</p>	
<p>James Stanton Calpine #5</p>	<p>No The Requirement sentence seems to be poorly constructed. Suggest this alternative: "The Reliability Authority (RA) shall have a mitigation plan that includes procedures designed to prevent operating limits from being exceeded, and to mitigate the effects of periods when the limits are exceeded."</p>
<p>The requirement was modified in a way that supports this suggestion.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No We agree with this Requirement, in general. However, the plan should not have to be "approved" by anyone other than through internal RA processes.</p>
<p>The term, 'approve' has been removed from this requirement. That is what was originally intended, but was not clearly stated.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>No Same comment as for Requirement #12, question #32. <i>{ The RA must not act when there are market mechanisms available to mitigate/prevent the identified problem. This Standard must recognize that such congestion management processes will be accommodated by the RAs before RAs take actions. The Standard must coordinate with the business practice or standard that will be employed to relieve congestion or anticipated system problems.}</i></p>
<p>The RA has the ultimate responsibility for resolving an identified problem by whatever means it has at its disposal. The RA will undoubtedly employ market mechanisms to uphold this responsibility but this standard will not require it to do so. Its business practices must conform to the standard.</p>	
<p><b>No – Comments indicating requirement is inappropriate</b></p>	
<p>Lee Xanthakos SCE&amp;G #1</p>	<p>No See comments for questions 32. State laws may prohibit RAs from taking action on a TOPs system <i>{ We do not agree with this requirement. Furthermore we do not agree that NERC has the authority to force such a requirement onto the RAs. As written, the requirement essentially bestows functional control to the RA. This is something the South Carolina PSC has expressly ruled is the responsibility of the TSP and no one else. Actual and functional control of the transmission system is the responsibility of SCE&amp;G's transmission department. This responsibility can not and will not be transferred to any other entity without expressed approval of the Public Service Commission. This approval has not been given nor is it expected to be given, regardless of SCE&amp;G's desires We recommend that drafting team should instead write a standard that requires the RA to notify the TSP of a imminent situation and provide assistance, if requested, so the TSP can implement their own mitigation plans.}</i></p>
<p>These new reliability standards are being drafted in support of the Functional Model. Under the Functional Model, the reliability authority has responsibility for protecting the reliability of the transmission system – and the transmission operator has responsibility for protecting the reliability of local networks. It sounds like SCE&amp;G may serve as both an RA and a TSP – this is totally acceptable under the</p>	

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Functional Model. If this is true, there is no conflict with the requirements imposed by the South Carolina PSC.	
Compliance Managers	Delete this requirement See Comments under Requirement #12 <i>{ There are two parts to the Requirement. The first is a requirement to use the monitoring and analysis information to prevent an OSL. If this is done, there are no further requirements since there are no violations. The second part of the proposed requirement is to determine how well the entity rectified (mitigated) the situation after a violation occurred. This will be part of the report and possible investigation after a violation occurs, and therefore will be part of the process of Requirement #1. }</i>
Requirement 1 in the first draft of this standard did not address either having a mitigation plan or reporting instances of exceeding limits. When an operational planning analysis is conducted, it may identify a limit that may be exceeded in the future – when a real-time assessment is conducted it may identify a limit that has already been exceeded. This standard requires both.	
Joseph Buch Madison #4	No
Fred Frederick Vectren #3	No
<b>Yes – Comments indicating additional clarification needed</b>	
Toni Timberman BPA #1	Yes/No Requirement does not specify “documented, approved” mitigation plan but the Outcome and Levels of Non-Compliance use this language. Who is responsible for approving the plan?
The term, ‘mitigation plan,’ has been replaced with the term, ‘action plan’ – and the word, ‘approve’ has been removed from this requirement. Additional revisions shifted the emphasis from ‘approval’ to ‘coordination’ with involved entities.	
William Smith Allegheny Pwr #1	Yes Requirement 214 and 215 are very similar. Requirement 214 applies to Reliability Authorities and requirement 215 applies to Transmission Operators. Coordination among the two entities should be required.
The duplicate requirement for the TOP has been removed from this standard. This requirement was modified to shift the emphasis from ‘approval’ of the plan to ‘coordination’ with involved entities.	
Vern Colbert Dominion #1	Yes Contingency plan is a better choice of wording for this requirement than mitigation plan.
The term, ‘mitigation plan’ has been replaced with ‘action plan’. Because the plan addresses situations where limits may be exceeded as well as situations where limits have been exceeded, ‘action plan’ seemed more appropriate than contingency plan.	
Tony Jankowski We-Energies #4	Yes Should read: To prevent or mitigate system operating limit violations.
The requirement has been revised to add this clarification.	
Tom Petrich (5) PG&E #1	Yes In the sentence, “The RA shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits.” We may want to replace the word “approved” with “finalized”. If not, we suggest identifying the approving party. Otherwise, it could introduce confusion in implementation.

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<p>Agree with the intent of this revision. The term, 'approved' has been removed from this requirement.</p>	
<p>Thomas Pruitt Duke #1</p>	<p>Yes (6 The use of the word "approved" needs to be clarified. Who approves the plan? 2) Since System Operating Limits are still being developed, it is premature to use this term in the requirement. The requirement should be worded in such a way that does not use the term.</p>
<p>This requirement was modified to shift the emphasis from 'approval' of the plan to 'coordination' with involved entities. The SDT has been working with the Facilities Rating SDT to utilize the terminology being developed by that team. With the revisions to this standard, a new term, "Interconnection Reliability Operating Limit or IROL" is being introduced. IROLs are the subset of all system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. If endorsed by the industry, the term, IROL will be used in this standard.</p>	
<p>Lee Westbrook Oncor #1</p>	<p>Yes Emergency operations plans may not be documented to the same degree as plans prepared pre-contingency.</p>
<p>This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>Yes Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.</p>
<p>This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.</p>	
<p>Richard Schwarz PNSC #2</p>	<p>Yes The requirement does not require an approved mitigation plan. Who is responsible for approving the mitigation plan?</p>
<p>The term, 'mitigation plan,' has been replaced with the term, 'action plan' – and the word, 'approve' has been removed from this requirement. Additional revisions shifted the emphasis from 'approval' to 'coordination' with involved entities.</p>	
<p>Mike Miller Southern Co #1</p>	<p>Yes Documentation included for Non-reportable as well as Reportable OSLV required</p>
<p>One of the other requirements in this standard has been revised to clarify that documentation is required for recordable events as well as IROL violations.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>Yes It should be clarified that these plans need to include system intact and applicable prior-outage conditions. System Operating Limit should be in caps to be consistent with the definition on page 2. The requirement section language should be the same as that for requirement #15.</p>
<p>This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to prevent and mitigate instances of exceeding IROLs. The format for Reliability Standards limits capitalization to proper nouns.</p>	
<p>John Blazekovich</p>	<p>Yes</p>

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<p>Exelon #1,3,5,6</p>	<p>What entity is required to “approve” the mitigation plan?          Need to clearly state the scope of the plan required along with the level of detail required in the plan.          The outcome appears to require entities to prepare plans to address instability and uncontrolled separation only, this requirement should address “Planned for Contingencies”.</p>
<p>The term, ‘mitigation plan,’ has been replaced with the term, ‘action plan’ – and the word, ‘approve’ has been removed from this requirement. Additional revisions shifted the emphasis from ‘approval’ to ‘coordination’ with involved entities.          This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.</p>	
<p>Ed Stein Firstenergy Sol #6          Ray Morella FirstEnergy #1          Joanne Borrell FirstEnergy Sol #3          ECAR Ops Panel          #1 – 8 #5 – 1 #2 – 2</p>	<p>Yes          Requirements 214 and 215 are very similar. Requirement 214 applies to Reliability Coordinators. Requirement 215 applies to Transmission Operators. The Reliability Coordinator Plan and the Transmission Operator Plan must be coordinated. These plans must clearly state the responsibilities of the Reliability Coordinator and the responsibilities of the Transmission Operator. There must not be any confusion as to who has the responsibility to take specific actions.</p>
<p>The standard was revised to eliminate all of the duplicate requirements for the TOP.          This requirement is the responsibility of the RA. The requirement was changed to add language that requires that the plan be coordinated with all entities that will have to take actions as part of the plan, and all entities that will be impacted by actions taken as part of the plan.</p>	
<p>Guy Zito (See List)          NPCC #2 – 2          NPCC #1 – 5          David Kiguel          Hydro One #1</p>	<p>Yes          It is only necessary to have a procedure in place that relieves the SOL violation.          It is unclear if a mitigation plan requires external approvals and by whom.</p>
<p>The term, ‘mitigation plan,’ has been replaced with the term, ‘action plan’ – and the word, ‘approve’ has been removed from this requirement.          This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to prevent and mitigate instances of exceeding its interconnection reliability operating limits.</p>	
<p>Alan Boesch          NPPD #1</p>	<p>Yes/No          Who has to approve the plan? The RA, compliance monitor, TOP or someone else? Who approves needs to be identified in the standard.</p>
<p>The term, ‘mitigation plan,’ has been replaced with the term, ‘action plan’ – and the word, ‘approve’ has been removed from this requirement.</p>	
<p>Francis Halpin          BPA Bus Line #5,6</p>	<p>Yes          The plan should be the result of a collaborative effort of all involved parties.</p>
<p>The term, ‘mitigation plan,’ has been replaced with the term, ‘action plan’ – and the word, ‘approve’ has been removed from this requirement. Additional revisions shifted the emphasis from ‘approval’ to ‘coordination’ with involved entities.</p>	
<p>Ed Riley          CA ISO #2</p>	<p>Yes          If the Requirement and Outcome are modified so that where reference is made to a “mitigation plan”, it says “mitigation plan/procedure”.</p>

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<p>The term, 'mitigation plan,' has been replaced with the term, 'action plan' – and the word, 'approve' has been removed from this requirement. Additional clarifications identified that a process or procedure may be used as a 'plan' if it addresses the actions for the RA to take to or actions the RA will direct others to take, to prevent and mitigate instances of exceeding its interconnection reliability operating limits. The intent was to clarify that if an RA already had a process or procedure in place that addresses IROLs, then that could be used to satisfy this requirement – there shouldn't be a need to develop a new plan if an entity already has something in place.</p>	
<p>Darrel Richardson Illinois Power #1, 3</p>	<p>Yes However, because of varying system usages and configurations the entity should not be in non-compliance if the mitigation plan is not entirely prescriptive. The mitigation plan may point to a range of actions that could be taken to resolve given problems.</p>
<p><u>This is what was intended.</u></p>	
<p>Stuart Goza TVA #1 Roman Carter So Co Gen 3,5,6 (6 members) Roger Green Southern Co #5 Richard Kafka Pepco #1 Joe Minkstein PG&amp;E #5 Gerald Rheault Manitoba #1,3,5,6 Karl Kohlrus CWL&amp;P #5 Kim Warren IMO #2 Doug Hils Cinergy #1 Dilip Mahendra SMUD #1 Bob Burkard NCMPA1 # 3,4,5 Albert M. DiCaprio MAAC #2</p>	<p>Yes</p>

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**37. Requirement 14 – Do you agree with these levels of non-compliance for this requirement?**

<b>Original Levels of Non-compliance</b>
1. Mitigation Plan and/or procedure(s) exists but wasn't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

<b>Revised Levels of Non-compliance</b>
1. Action plan exists but wasn't coordinated with all involved and impacted entities
2. Action plan exists but wasn't coordinated with any involved or any impacted entities
3. Not applicable
4. No action plan

**Summary Consideration:**

The levels of non-compliance have been modified to conform with the modifications to the associated requirement.

<b>No – Comments indicating addressing non-compliance is premature</b>	
Ed Riley CA ISO #2	No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
Gregory Campoli NY ISO #2	No It is premature to develop compliance levels at this time.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1	No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
FRCC 6-#1, 4-#2, 1-#2	No Until the requirement itself is better understood, we can not comment on these

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	<p>levels.</p> <p>In the draft standard, in the compliance monitoring process section 214(e), there is a sentence that states “The compliance monitor shall evaluate the mitigation plan and/or procedures.” Why is this here? The compliance monitor will evaluate compliance to the requirement measures. It does not seem correct that the compliance monitor will evaluate mitigation plans, as that is not their area of expertise.</p>
<p>The compliance monitor does have the responsibility of measuring compliance with the standard.</p>	
<p>Susan Morris SERC #2 Thomas Pruitt Duke #1 Todd Lucas (6?) Southern Co #1 Robert Reed TS (See List)</p>	<p>No</p> <p>Question 36 needs to be addressed and resolved before the levels of non-compliance can be determined.</p> <p><i>{The requirement can be enhanced. See the following comments as examples:</i></p> <ul style="list-style-type: none"> <li>- <i>It should be clarified that these plans need to include system intact and applicable prior-outage conditions.</i></li> </ul> <p><i>It is only necessary to have a procedure in place that relieves the SOL violation. If a mitigation plan requires external approvals, then by whom? Will security constrained generation redispatch be an acceptable prevention or mitigation action?}</i></p>
<p>The requirement was modified. The requirement has been modified to indicate that the RA is responsible for developing an action plan, rather than a mitigation plan, and that the RA is responsible for coordinating with all involved entities (those that are required to take action and those that are impacted by these actions). The word, approve, has been removed from this requirement, and does not appear in the revised levels of non-compliance. We encourage you to comment on the revised requirement and associated levels of non-compliance.</p>	
<p>Alan Boesch NPPD #1</p>	<p>No</p> <p>Who has to approve the plan? The RA, compliance monitor, TOP or someone else? Who approves needs to be identified in the standard.</p>
<p>The requirement has been modified to indicate that the RA is responsible for developing an action plan, rather than a mitigation plan, and that the RA is responsible for coordinating with all involved entities (those that are required to take action and those that are impacted by these actions). The word, approve, has been removed from this requirement, and does not appear in the revised levels of non-compliance.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>Cannot agree with this approval process since it remains somewhat undefined. For instance, who gives the approval?</p>
<p>The requirement has been modified to indicate that the RA is responsible for developing an action plan, rather than a mitigation plan, and that the RA is responsible for coordinating the development of the action plan with all involved entities (those that are required to take action and those that are impacted by these actions). The word, ‘approve,’ has been removed from this requirement, and does not appear in the revised levels of non-compliance.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.</p>
<p>This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.</p>	
<p><b>No – Comments indicating levels of non-compliance need adjustment</b></p>	
<p>Toni Timberman BPA #1</p>	<p>#1 is not consistent with the requirement. #4 is ok.</p>

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<p>The levels of non-compliance were revised to conform with the changes made to the associated requirement.</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>We need to specify the party that would do the approving.</p>
<p>The requirement has been revised to remove the word, 'approve.' The revised requirement emphasizes the need to coordinate development with involved parties, rather than the approval process.</p>	
<p><b>No – Other comments</b></p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>No Compliance needs to affirm that a collaborative process took place in the development of the 'mitigation plan'.</p>
<p>The revised requirement and levels of non-compliance address the need to coordinate the development of the action plan with the involved parties.</p>	
<p>Sam Jones ERCOT #2</p>	<p>Please see comments to #36 above. <i>{re: Outcomes. Shouldn't this read "procedure or policy" to ensure "Operating within limits and associated mitigating actions are taken." How can you have a "documented, approved mitigation plan" for unknown contingencies? Furthermore, such a plan as required by Requirement 1`4 should be part of the Certification requirements, not this standard.}</i></p>
<p>The term, 'mitigation plan,' has been replaced with the term, 'action plan' – and the word, 'approve' has been removed from this requirement. The measures were modified to indicate that the action plan must be coordinated with those who would be required to act as part of the plan, and with those who would be affected by the plan, and to indicate that existing procedures may be used as an action plan. The Outcomes section has been absorbed into the measures. While the Certification Requirements look for certain plans and procedures to be in place, when an entity is certified to perform the RA function, that entity may not have had all the data needed to identify its IROLs.</p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2 Ray Morella FirstEnergy #1</p>	<p>No Version A and Version B of this questionnaire have different descriptions of non-compliance for this requirement. The standard needs to define which description is correct.</p>
<p>The next draft of the standard will consist of a single version to eliminate this discrepancy.</p>	
<p><b>Yes – Comments indicating additional clarification needed</b></p>	
<p>Lloyd Linke MAPP #2</p>	<p>Yes It should be clarified who needs to approve these plans – corporate manangement, NERC....</p>
<p>The revised requirement does not include the term, 'approved' – instead it emphasizes the need to coordinate the development of an 'action plan' with all entities that would be required to act or would be impacted by actions included in the plan.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>Yes However, you need to define in the requirements section who is to approve the plan and be more specific as to what the approval requirements are. That is just how detailed does this plan need to be. However, if the intent is that each identified credible contingency scenario has its own action plan, that seems unrealistic unless this is at a superficial highlevel and then what is the point of the plan?</p>

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The revised requirement does not include the term, 'approved' – instead it emphasizes the need to coordinate the development of an 'action plan' with all entities that would be required to act or would be impacted by actions included in the plan.

This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.

<p>Albert M. DiCaprio MAAC #2          Bob Burkard NCMPA1 # 3,4,5          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          Doug Hils Cinergy #1          Ed Stein Firstenergy Sol #6          Fred Frederick Vectren #3          George Bartlett Entergy Svcs 1          Gerald Rheault Manitoba #1,3,5,6          James Stanton Calpine #5          Joanne Borrell FirstEnergy Sol #3          Joe Minkstein PG&amp;E #5          John Blazekovich Exelon #1,3,5,6          Joseph Buch Madison #4          Karl Kohlrus CWL&amp;P #5          Kim Warren IMO #2          Mike Miller Southern Co #1          Richard Kafka Pepco #1          Richard Schwarz PNSC #2          Roman Carter So Co Gen 3,5,6 (6 members)          Stuart Goza TVA #1          Tony Jankowski We-Energies #4          Vern Colbert Dominion #1          William Smith Allegheny Pwr #1</p>	<p>Yes</p>
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**Consideration of Comments on 1st Posting of Monitor and Assess Short-term Transmission Reliability – Operate Within Transmission Limits Standard**

**38. Requirement 15 – Do you agree with this requirement and its associated performance/outcome and measure/s?**

<p><b>Requirement</b></p> <p>The Transmission Operator (TOP) shall have a documented mitigation plan that identifies actions to be taken to prevent exceeding an identified system operating limit.</p> <p><b>Measure(s)</b></p> <p>Mitigation plan/procedure(s) that identify actions the TOP shall take to remain/return to a state that is within system operating limits.</p> <p><b>Outcome(s)</b></p> <p>The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits. (Note: an emergency operations plan may be used to satisfy this requirement if the emergency operations plan addresses actions to take to prevent exceeding identified system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.)</p>
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**Revised Requirement:** None

**Summary Consideration:**

Based on the comments submitted and a review of the Functional Model, the SDT removed this requirement from this standard.

Under the Functional Model, this requirement is assigned solely to the RA. The TOP is responsible for local network integrity, not the integrity of the interconnected bulk electric system. The TOP works under the direction of the RA.. Here is a subset of what is included for the TOP in the Functional Model:

- Provides local network integrity by defining operating limits, developing contingency plans, and monitoring operations
- Operates transmission system facilities under direction of the Reliability Authority
- Requests Reliability Authority to mitigate Operating Reliability Limit violations. (e.g., re-dispatch, transmission loading relief)
- Implements reliability measures as directed by Reliability Authority

<b>No – Comments indicating requirement is inappropriate</b>	
Toni Timberman BPA #1	Requirement does not state that the documented plan must be approved. Requirement states that actions “prevent exceeding” but the outcome says “remain/return to within”. These are not consistent. Again, TOP has no responsibility for the bulk transmission system.
<a href="#">This requirement was dropped from this standard.</a>	
Richard Kafka Pepco #1	No This is an RA responsibility
<a href="#">This requirement was dropped from this standard.</a>	
Albert M. DiCaprio MAAC #2	No Again, this is an RA responsibility.
<a href="#">This requirement was dropped from this standard.</a>	
<b>No – Comments indicating additional clarification is needed</b>	

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<p>Thomas Pruitt Duke #1</p>	<p>No See comments for question 36. <i>{1) The use of the word “approved” needs to be clarified. Who approves the plan? 2) Since System Operating Limits are still being developed, it is premature to use this term in the requirement. The requirement should be worded in such a way that does not use the term.}</i></p>
<p>This requirement was dropped from this standard. The revised requirement for the RA was modified so the word, 'approved' is not used. The SDT has been working with the Facility Rating SDT to utilize the terminology being developed by that team. With the revisions to this standard, a new term, “Interconnection Reliability Operating Limit or IROL” is being introduced. IROLs are the subset of all system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. If endorsed by the industry, the term, IROL will be used in this standard.</p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>No (6 Clarification is necessary to specify that these plans need to include system intact and applicable prior-outage conditions. (6 System Operating Limit should be in capital letters to be consistent with the definition on page 2. 3) There may be potential conflict between the RA and TOP in prevention/mitigation actions. Is this requirement necessary?</p>
<p>This requirement was dropped from this standard so there will be conflict between the RA and the TOP. This same requirement for the RA will not address plan requirements in great detail. The RA’s action plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits. The new format for reliability standards limits capitalization to proper nouns.</p>	
<p>Sam Jones ERCOT #2 OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>Please see comments to #36 above. <i>{re: Outcomes. Shouldn't this read “procedure or policy” to ensure “Operating within limits and associated mitigating actions are taken.” How can you have a “documented, approved mitigation plan” for unknown contingencies? Furthermore, such a plan as required by Requirement 1`4 should be part of the Certification requirements, not this standard.}</i></p>
<p>This requirement was dropped from this standard. The same requirement for the RA was modified as follows: The term, 'mitigation plan,' has been replaced with the term, 'action plan' – and the word, 'approve' has been removed from this requirement. The measures were modified to indicate that the action plan must be coordinated with those who would be required to act as part of the plan, and with those who would be affected by the plan, and to indicate that existing procedures may be used as an action plan. The Outcomes section has been absorbed into the measures. While the Certification Requirements look for certain plans and procedures to be in place, when an entity is certified to perform the RA function, that entity may not have had all the data needed to identify its IROLs.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No The development of mitigation plans and strategies should be a joint effort between the RA and TOP. But the responsibility should reside with the RA. If both are responsible for developing and having plans, what is to prevent them from having vastly different plans for the same problem? Who determines which plan is implemented?</p>

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	Should the concern be limited to thermal overloads and/or voltage conditions that only lead to catastrophic events?
<p>This requirement was dropped from this standard. The responsibility for developing an action plan rests with the RA. Under the revised RA's requirement, the RA must coordinate the development of its action plan with those entities that would have to take action as part of the plan and with those entities that would be impacted by the actions taken as part of the plan.</p> <p>This standard's scope is limited to the subset of system operating limits called, 'interconnection reliability operating limits' or IROLs. This is the subset of system operating limits that, if exceeded can cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p>	
Charles Yeung Reliant Energy #6	<p>No</p> <p>Same comment as Requirement #13, question #34.</p> <p><i>{ It is unclear what the relationship and responsibilities of the TOP are as compared to the RA. The Standard proposes the same language for both functions. What is the reporting relationship and operational hierarchy between the RA and the TOP? Is the TOP analysis more "local" in nature than the RA analysis? What if each one's analysis does not agree? Which analysis will prevail to ensure grid reliability? }</i></p>
<p>This requirement was dropped from this standard. The responsibility for developing an action plan to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits rests with the RA, not the TOP. The TOP is only responsible for local network integrity.</p>	
Gregory Campoli NY ISO #2	<p>No</p> <p>We are unclear as to who should be approving a mitigation plan. Procedures should be identified that includes mitigation plans. The requirement should be changed to reference procedures not mitigation plans.</p>
<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was modified to drop the reference to having an 'approved mitigation plan'. Under the revised requirement, the plan is called an action plan and the need for approval was dropped. The revised requirement indicates that a process or procedure that identifies actions to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits may be used as an action plan.</p>	
Peter Burke ATC #1	<p>No</p> <p>Subject to the response given to Question #36, the TOP should be held accountable for maintaining an accurate record of relevant mitigation plans for its area as supplied by the RA.</p>
<p>This requirement was dropped from this standard. The responsibility for developing an action plan to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits rests with the RA, not the TOP. The TOP is only responsible for local network integrity.</p>	
George Bartlett Entergy Svcs 1	<p>No</p> <p>Our comment to Requirement 14 applies here also. It could also be argued that a TOP should share its mitigation plans with its RA.</p> <p><i>{ We agree with this Requirement, in general. However, the plan should not have to be "approved" by anyone other than through internal RA processes. }</i></p>
<p>This requirement was dropped from this standard. The responsibility for developing an action plan to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits rests with the RA, not the TOP.</p> <p>Under the revised requirement for the RA, the action plan must be coordinated with those who will take actions as part of the plan and those who will be impacted by the plan.</p>	
Ken Skroback	No

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AL Elec Coop #4	In outcomes you say that the mitigation plan must be approved. Approved by whom?
<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was revised to drop the requirement that the plan be approved. The original intent was to have someone of authority in the RA's entity approve the plan, but this intent wasn't clearly stated and many commenters objected to the need for an approval.</p>	
Kathleen Goodman ISO NE #2	No Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.
<p>This requirement was dropped from this standard.</p> <p>This same requirement for the RA will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.</p>	
John Blazekovich Exelon #1,3,5,6	No Requires better definition of violating, returning, and reset point for S.O.L. What entity is required to "approve" the mitigation plan? Need to clearly state the scope of the plan required along with the level of detail required in the plan. The outcome appears to require entities to prepare plans to address instability and uncontrolled separation only, this requirement should address "Planned for Contingencies".
<p>A set of definitions will be posted with the revised standard, and includes definitions of IROLs, documentable IROLs and reportable IROLs.</p> <p>This requirement was dropped from this standard.</p> <p>This same requirement for the RA was revised to drop the need to have the plan 'approved.' This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.</p>	
James Stanton Calpine #5	No See #37 language. <i>{ The Requirement sentence seems to be poorly constructed. Suggest this alternative: "The Reliability Authority (RA) shall have a mitigation plan that includes procedures designed to prevent operating limits from being exceeded, and to mitigate the effects of periods when the limits are exceeded." }</i>
<p>This requirement was dropped from this standard. The suggested language change was adopted, in concept, in the revised requirement that addresses the RA's action plan.</p>	
Alan Johnson Mirant #6	No Again, agree in concept, but unclear as to what process will be used to approve the mitigation plan.
<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was modified to drop the requirement that the plan be approved.</p>	
Compliance Managers	Delete this requirement
<p>This requirement was dropped from this standard.</p>	
Fred Frederick Vectren #3	No
<p><b>Yes – Comments indicating additional clarification needed</b></p>	

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<p>Alan Boesch NPPD #1</p>	<p>Yes/No Who has to approve the plan? The RA, compliance monitor, TOP or someone else? Who approves needs to be identified in the standard.</p>
<p><a href="#">This requirement was dropped from this standard.</a> <a href="#">The same requirement for the RA was modified to drop the requirement that the plan be approved.</a></p>	
<p>David Kiguel Hydro One #1</p>	<p>Yes/No It is only necessary to have a procedure in place that relieves the SOL violation. It is unclear if a mitigation plan requires external approvals and by whom. Please see our comments under item # 44 (Regional and Interconnection Differences). <i>{There are differences in some Areas. For example, in Ontario the IMO is solely responsible to determine operating limits and to direct the operation of the IMO-Controlled Grid within these limits. The Transmission owners/operators operate thir respective systems under the IMO's direction. They only provide the IMO with equipment ratings which the IMO must respect. The transmission operators do not determine operating limits or monitor/report their compliance. The standard should reflect jurisdictional differences in the responsibilities assigned to the RA and TOP in some areas. }</i></p>
<p><a href="#">This requirement was dropped from this standard.</a> <a href="#">The same requirement for the RA has been modified to clarify that the plan needs to identify the actions the RA must take or actions the RA must direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits. The revised requirement for the RA does not require any approvals.</a></p>	
<p>Kim Warren IMO #2</p>	<p>Yes/No Yes ,only if it is recognized that in some jurisdictions, the TOP may be the same entity as the RA but does not necessarily perform all of the roles(eg. Switching,maintenance,outage &amp; construction notification) that the Functional Model defines for the TOP. Where the RA and the TOP are different, there needs to be a clear distinction of which system limits each are accountable for. This document should be reworked to be consistent with the recently issued OLD TF report.</p>
<p><a href="#">This requirement was dropped from this standard.</a> <a href="#">As revised, this standard clearly addresses only the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system. These limits, called interconnection reliability operating limits, are under the control of the RA, not the TOP.</a> <a href="#">The work of the OLDTF was considered in the revisions to this standard. While the concepts in the OLDTF report are very similar to the objectives of this standard, there are some significant differences.</a> <a href="#">The SDT is doing its work as part of an open standards development process and will utilize the work of the OLDTF to the extent that its work is available and is submitted in response to public postings of the draft standard. The SDT will not wait for the OLDTF or any other group to complete its work.</a></p>	
<p>Ed Stein Firstenergy Sol #6 Ray Morella FirstEnergy #1 Joanne Borrell FirstEnergy Sol #3 ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2</p>	<p>Yes Requirements 214 and 215 are very similar. Requirement 214 applies to Reliability Coordinators. Requirement 215 applies to Transmission Operators. The Reliability Coordinator Plan and the Transmission Operator Plan must be coordinated. These plans must clearly state the responsibilities of the Reliability Coordinator and the responsibilities of the Transmission Operator. There must not be any confusion as to who has the responsibility to take specific actions.</p>

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<p>This requirement was dropped from this standard. The responsibility for developing an action plan to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits rests with the RA, not the TOP.</p> <p>Under the revised requirement for the RA, the action plan must be coordinated with those who will take actions as part of the plan and those who will be impacted by the plan – and should involve the TOPs.</p>	
<p>William Smith Allegheny Pwr #1</p>	<p>Yes</p> <p>Requirement 214 and 215 are very similar. Requirement 214 applies to Reliability Authorities and requirement 215 applies to Transmission Operators. Coordination among the two entities should be required.</p>
<p>This requirement was dropped from this standard. The responsibility for developing an action plan to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits rests with the RA, not the TOP.</p> <p>Under the revised requirement for the RA, the action plan must be coordinated with those who will take actions as part of the plan and those who will be impacted by the plan – and should involve the TOPs.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>Yes</p> <p>It should be clarified that these plans need to include system intact and applicable prior-outage conditions.</p> <p>System Operating Limit should be in caps to be consistent with the definition on page 2.</p>
<p>This requirement was dropped from this standard.</p> <p>This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.</p> <p>The format for Reliability Standards limits capitalization to proper nouns.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5</p>	<p>Yes</p> <p>It is only necessary to have a procedure in place that relieves the SOL violation. It is unclear if a mitigation plan requires external approvals and by whom.</p>
<p>This requirement was dropped from this standard.</p> <p>This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>Yes</p> <p>Again, we have the question about the TOP having an approved mitigation plan. Who does the approval? The RA should understand the mitigation plan, and agree that it will correct the problem, but approval may not be the appropriate word.</p> <p>Not only should the TOP have a mitigation plan ready, but they should have a requirement to implement it when directed to by the RA.</p>
<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was revised to remove the approval requirement.</p>	
<p>Vern Colbert Dominion #1</p>	<p>Yes</p> <p>Same as #36</p> <p><i>{ Contingency plan is a better choice of wording for this requirement than mitigation plan. }</i></p>

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<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was modified to use the term, 'action plan' rather than mitigation plan. Because the plan addresses situations where limits may be exceeded as well as situations where limits have been exceeded, 'action plan' seemed more appropriate than contingency plan.</p>	
<p>Tony Jankowski We-Energies #4</p>	<p>Yes</p> <p>Should read: To prevent or mitigate system operating limit violations.</p>
<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was modified to indicate that an action plan must address actions for the RA to take to or actions the RA will direct others to take, to prevent and mitigate instances of exceeding its interconnection reliability operating limits</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>Yes</p> <p>In the sentence, "The TOP shall have a documented, approved mitigation plan that identifies actions to remain/return to within system operating limits." We may want to replace the word "approved" with "finalized". If not, we suggest identifying the approving party. Otherwise, it could introduce confusion in implementation.</p>
<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was modified to remove the requirement that the plan be 'approved.'</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>Yes</p> <p>Need clarification of the responsibilities. Mitigation plans are the joint responsibility of the RA, TOP, &amp; TO and should be jointly developed</p>
<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was modified to clarify that the plan must be coordinated with all entities that must act as part of the plan and with all entities that would be impacted by the plan.</p>	
<p>Lee Westbrook Oncor #1</p>	<p>Yes</p> <p>Words should match those in Requirement 14.</p>
<p>This requirement was dropped from this standard.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>Yes</p> <p>The plan should be the result of a collaborative effort of all involved parties.</p>
<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was modified to clarify that the plan must be coordinated with all entities that must act as part of the plan and with all entities that would be impacted by the plan.</p>	
<p>Ed Riley CA ISO #2</p>	<p>Yes</p> <p>See response to question #36.</p> <p><i>{ If the Requirement and Outcome are modified so that where reference is made to a "mitigation plan", it says "mitigation plan/procedure". }</i></p>
<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was modified to clarify that a process or procedure may be used as the 'plan' if it addresses the actions the RA must take to or the actions the RA must direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.</p>	
<p>Darrel Richardson Illinois Power #1, 3</p>	<p>Yes</p> <p>However, because of varying system usages and configurations the entity should not be in non-comp[liance if the mitigation plan is not entirely perscriptive. The mitigation plan may point to a range of actions that could be taken to resolve given problems.</p>

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<p>This requirement was dropped from this standard.</p> <p>The plan for the RA may identify a range of actions that could be taken to prevent and mitigate instances of exceeding its IROLs.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>Yes</p> <p>However, is there a coordinated effort between the RA and TOP to mitigate an OSL? Or, do the RA and TOP perform the mitigation plan completely independent of one another.</p>
<p>This requirement was removed from this standard.</p> <p>The same requirement for the RA clarifies that the RA must coordinate its action plan with the entities that will take actions as part of the plan, and with the entities that would be impacted by the plan. The RA is expected to act or direct the TOP to act to resolve instances of exceeding IROLs.</p>	
<p>Bob Burkard NCMPA1 # 3,4,5 Dilip Mahendra SMUD #1 Doug Hils Cinergy #1 Gerald Rheault Manitoba #1,3,5,6 Joe Minkstein PG&amp;E #5 Joseph Buch Madison #4 Karl Kohlrus CWL&amp;P #5 Lee Xanthakos SCE&amp;G #1 Mike Miller Southern Co #1 Roger Green Southern Co #5 Stuart Goza TVA #1</p>	<p>Yes</p>

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### 39. Do you agree with these levels of non-compliance?

#### Original Levels of Non-compliance

1. Mitigation Plan and/or procedure(s) exists but wan't approved
2. Not Applicable
3. Not Applicable
4. No mitigation plan or procedure exists

**Revised Levels of Non-compliance:** None

#### Summary Consideration:

Based on industry comments and additional review of the Functional Model, this requirement and its associated levels of non-compliance were removed from this standard.

N0 – Comments indicating levels of non-compliance inappropriate	
FRCC 6-#1, 4-#2, 1-#2	No Should compliance levels be for having a plan and implementing it when directed. What good is a plan if it is not used?
This requirement and its associated levels of non-compliance have been dropped from this standard.	
Lee Xanthakos SCE&G #1	No There should be some level of compliance for how well an approved plan was followed.
This requirement and its associated levels of non-compliance have been dropped from this standard.	
Kathleen Goodman ISO NE #2	No Please also make provisions for mitigating actions which were not previously identified by a study, but cleared the limit violation.
This requirement and its associated levels of non-compliance have been dropped from this standard. This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.	
Toni Timberman BPA #1	#1 is not consistent with the requirement. #4 is ok
This requirement and its associated levels of non-compliance have been dropped from this standard.	
No – Comments indicating addressing non-compliance is premature	
Susan Morris SERC #2 Thomas Pruitt Duke #1 Robert Reed TS (See List)	No Question 38 needs to be addressed and resolved before the levels of non-compliance can be determined.
This requirement and its associated levels of non-compliance have been dropped from this standard.	
Ed Riley	No

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CA ISO #2	The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1	No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
Gregory Campoli NY ISO #2	No It is premature to develop compliance levels at this time.
The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.	
<b>No – Comments indicating additional clarification needed</b>	
Raj Rana AEP #1,3,5,6	No However, you need to define in the requirements section who is to approve the plan and be more specific as to what the approval requirements are. That is just how detailed does this plan need to be. However, if the intent is that each identified credible contingency scenario has its own action plan, that seems unrealistic unless this is at a superficial highlevel and then what is the point of the plan?
This requirement and its associated levels of non-compliance have been dropped from this standard. For the same requirement for the RA, the approval requirement was removed. This standard will not address plan requirements in great detail. The plan only needs to identify the actions for the RA to take to or actions the RA will direct others to take, to remain within, or to return to, a state that does not exceed its interconnection reliability operating limits.	
Peter Burke ATC #1	No Agreement would depend upon addressing the concerns expressed in Questions #37 and #38 above.
This requirement and its associated levels of non-compliance have been dropped from this standard.	
Ken Skroback AL Elec Coop #4	No Level 1: Approved by whom?
This requirement and its associated levels of non-compliance have been dropped from this standard. For the same requirement for the RA, the approval requirement was removed.	
<b>No – Other comments</b>	
ECAR Ops Panel #1 – 8 #5 – 1 #2 - 2	No Version A and Version B of this questionnaire have different descriptions of non-compliance for this requirement. The standard needs to define which description is correct.
This requirement and its associated levels of non-compliance have been dropped from this standard. The next draft of the standard will consist of a single version to eliminate this discrepancy.	

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Albert M. DiCaprio MAAC #2 Richard Kafka Pepco #1 Joanne Borrell FirstEnergy Sol #3 Ed Stein Firstenergy Sol #6	No
<b>Yes – Comments indicating additional clarification needed</b>	
Tom Petrich (5) PG&E #1	We need to specify the party that would do the approving.
This requirement and its associated levels of non-compliance have been dropped from this standard. For the same requirement for the RA, the approval requirement was removed.	
Alan Boesch NPPD #1	Yes/No Who has to approve the plan? The RA, compliance monitor, TOP or someone else? Who approves needs to be identified in the standard.
This requirement and its associated levels of non-compliance have been dropped from this standard. For the same requirement for the RA, the approval requirement was removed.	
Lloyd Linke MAPP #2	Yes It should be clarified who needs to approve these plans - corporate manangement, NERC....
This requirement and its associated levels of non-compliance have been dropped from this standard. For the same requirement for the RA, the approval requirement was removed.	
Ray Morella FirstEnergy #1	Yes Version A and Version B of this questionnaire have different descriptions of non-compliance for this requirement. The standard needs to define which description is correct.
This requirement and its associated levels of non-compliance have been dropped from this standard. The next draft of the standard will consist of a single version to eliminate this discrepancy.	
George Bartlett Entergy Svcs 1	Yes The 2 <sup>nd</sup> level could be that the mitigation plan exists, has been approved by the TOP, but hasn't been shared with its RA.
This requirement and its associated levels of non-compliance have been dropped from this standard.	
Francis Halpin BPA Bus Line #5,6	Yes Compliance needs to affirm that a collaborative process took place in the development of the 'mitigation plan'.
This requirement and its associated levels of non-compliance have been dropped from this standard. The same requirement for the RA was modified to indicate that the plan must be coordinated with the entities that must act as part of the plan and with the entities that will be impacted by the plan.	
Doug Hils Cinergy #1	Yes Use of mitigation plan from past similar system conditions need acceptable, new documentation need not be perpared for each new occurance of a similar condition.
This requirement and its associated levels of non-compliance have been dropped from this standard.	

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<p>Bob Burkard NCMIPA1 # 3,4,5          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          Fred Frederick Vectren #3          Gerald Rheault Manitoba #1,3,5,6          Joe Minkstein PG&amp;E #5          John Blazekovich Exelon #1,3,5,6          Joseph Buch Madison #4          Karl Kohlrus CWL&amp;P #5          Kim Warren IMO #2          Mike Miller Southern Co #1          Roman Carter So Co Gen 3,5,6 (6 members)          Stuart Goza TVA #1          Todd Lucas (6?) Southern Co #1          Tony Jankowski We-Energies #4          Vern Colbert Dominion #1          William Smith Allegheny Pwr #1</p>	<p>Yes</p>
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### 40. Requirement 16 - Do you agree with this requirement and its associated performance/outcome and measure/s?

#### **Original Requirement**

The Reliability Authority (RA) shall document instances of exceeding identified system operating limits and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.

#### **Measure(s)**

Data exists and is retrievable that documents instances of exceeding identified system operating limits

Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)

Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)

#### **Outcome(s)**

The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceeded for a specified time period. The report shall be filed within 72 hours of the event.

#### **Revised Requirement (combined with requirement for taking actions)**

The reliability authority shall act or direct others to act to:

- Prevent instances where interconnection reliability operating limits may be exceeded
- Mitigate the magnitude and duration of instances where interconnection reliability operating limits have been exceeded

The reliability authority shall document instances of exceeding interconnection reliability operating limits and shall document and complete an Interconnection Reliability Operating Limit Violation Report for instances of exceeding interconnection reliability operating limits for time greater than or equal to  $T_v$ .

#### **Measure(s)**

The reliability authority shall document each instance of exceeding an interconnection reliability operating limit:

- The reliability authority shall document via an operations log or other data source, the actions taken or directives issued, the magnitude of the event, and the duration of the event. (This data may be from an operating log, may be from the entity's energy management system, or may be from some other source.)

The reliability authority shall report each instance of exceeding an interconnection reliability operating limit for time greater than or equal to  $T_v$ :

- The reliability authority shall complete an Interconnection Reliability Operating Limit Violation Report and shall file the report with its compliance monitor within five business days of the initiation of the event. (The report includes the date and time of the event, identification of which interconnection reliability operating limit was violated and the  $T_v$  for that limit, magnitude and duration of exceeding the interconnection reliability operating limit, actions taken or directives issued, and explanation of results of actions or directives.)

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### Summary Consideration:

The DT met with representatives of both the OLDTF and the Facilities Rating Standards DT and agreed to adopt the term Interconnection Reliability Operating Limit (IROL). (This is equivalent to the term, 'IRL' used by the OLDTF, and is a subset of the system operating limits identified in the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard.) The requirement was revised to clearly indicate the Standard's requirement 'to complete' a high level report (not a 'complete' report with all the details and Lessons Learned). The requirement's associated measures were subdivided to distinguish between events that must be documented (all instances of exceeding an IROL for any length of time) and events that must be documented and reported (all instances of exceeding an IROL for a time greater than or equal to the IROL's  $T_v$ .)

**In response to comments on the reporting timing requirements, the time for filing a report was changed from 72 hours to 5 business days.**

<p>OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>No First, we believe this applies to IRL Compliance Violations only. Also, should split into a Preliminary Report and a "complete" Report. Preliminary Report should be submitted within 72 hours. A longer time is required for the "complete" report; probably a minimum of one month.</p>
<p>This standard applies just to the subset of system operating limits called, 'Interconnection Reliability Operating Limits'. The report in this standard is just a report of the facts that are immediately available – not a complete investigation of the causes of the event. There is another standard that addresses analysis of events, and the 'complete' report referenced in your comments should fall under that standard.</p>	
<p>Sam Jones ERCOT #2</p>	<p>No Please refer to the OLDTF report. This should apply to IRL Compliance Violations only. Also, this should be split into a Preliminary Report and a "complete" Report. The Preliminary Report should be submitted within 72 hours. A longer time is required for the "complete" report; probably a minimum of one month.</p>
<p>This standard applies just to the subset of system operating limits called, 'Interconnection Reliability Operating Limits'. The report in this standard is just a report of the facts that are immediately available – not a complete investigation of the causes of the event. There is another standard that addresses analysis of events, and the 'complete' report referenced in your comments should fall under that standard.</p> <p>The OLDTF submitted their report to the SDT during this draft standard's public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period.</p> <p>The concepts supported by the OLDTF are very similar to those already adopted by the SDT, but there are some differences.</p> <ul style="list-style-type: none"> <li>• The OLDTF requires reporting IRLs that have remained for 30 minutes or longer, while this proposed standard requires reporting each instance where an IROL has been exceeded for its unique <math>T_v</math>.</li> <li>• The data required by the OLDTF is more extensive than the data required by this standard.</li> </ul>	
<p>Vern Colbert Dominion #1</p>	<p>No Wait until the OLDTF study is complete.</p>
<p>The OLDTF submitted their report to the SDT during this draft standard's public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed.</p>	
<p>Gregory Campoli</p>	<p>No</p>

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NY ISO #2	This requirement needs to be developed following the work of the NERC OLD TF.
<p>The OLDTF submitted their report to the SDT during this draft standard’s public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed.</p>	
<p>Susan Morris SERC #2 Thomas Pruitt Duke #1 Robert Reed TS (See List)</p>	<p>No Delay this requirement until the OLDTF collaborates with the SDT to define "operating limits". These new limit definitions must also go through the standards process before formal implementation.</p>
<p>The OLDTF submitted their report to the SDT during this draft standard’s public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed. The new definitions included in this standard are being posted for comment when the revised standard is posted for comment.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>No This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved.</p>
<p>The OLDTF submitted their report to the SDT during this draft standard’s public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed.</p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 - 2</p>	<p>No (1) The existing NERC template on Operating Security Limits is confusing. This standard is much, much, much more confusing. There are many system operating limits. This standard does not say which system operating limit has to be reported and under what conditions it has to be reported. Do you have to report a system operating limit exceedance that has little impact on bulk power reliability. If so you'll get thousands of irrelevant reports every week for minor system operating limit exceedances. A report should be filed when a Operating Security Limit has been exceeded for 30 minutes per the existing NERC Policy. See the definition of an Operating Security Limit Violation under item 7 of this questionnaire. Requirement 216 has to be much more specific. If one cannot supply the specifics then this standard is not ready for balloting.  (2) Requirements 216 and 217 are very similar. Requirement 216 applies to Reliability Coordinators. Requirement 217 applies to Transmission Operators. The requirements are duplicative. The standard should require the documenting of Operating Security Limit violations by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both documenting the violations if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a</p>

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	<p>Transmission Operator.</p> <p>(3) The standard needs to clarify the difference between a reportable incident and an incident that is not reportable but must be documented.</p>
<p><b>There are many System Operating Limit (using the Facility Ratings Standard’s terminology) but this standard only addresses the subset of System Operating Limits called Interconnection Reliability Operating Limits of IROLs. IROLs are limits that, if exceeded, could lead to instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system are addressed in this standard.</b></p> <p><b>Under the proposed standard, each IROL may have a unique T<sub>v</sub>. (Under the proposed standard, T<sub>v</sub> is defined by the RA. The SDT recognizes that existing Operating Policy requires reporting instances of exceeding limits by 30 minutes - however the proposed standard includes the possibility of other time limits) Each instance of exceeding an IROL must be documented, and each instance of exceeding an IROL for a time greater than or equal to T<sub>v</sub> must be reported.</b></p> <p>The Functional Model approach (to drafting Standards) requires that the responsibility for a given function be assigned to one default entity. However, the Functional Model does NOT require that the entity that serves as that default entity be the entity that physically implements that function. A real-world TOP, Control Area, or Reliability Coordinator may be delegated the task of reporting.</p> <p>The consensus of the commenters is that this standard should assign the responsibilities of this standard to the RA and not to the TOP. The duplicate TOP requirement was dropped from this standard.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>No</p> <p>We agree with the intent of this requirement but believe modification to the language is required. Version A and B of this requirement differ slightly. Which is correct?</p> <p>The requirement is not clear on whether the RA is to log and report just system operating limit (SOL) violations (i.e. the limit is violated for the time specified in the Facilities Rating SAR) of both violations and instances where the limit is exceed though a violation per the Facilities Rating SAR has not occurred. We believe the RA should complete a report for all SOL violations as defined in the Facilities Rating SAR, but momentary excursions should not have to be reported to the NERC CM.</p> <p>Suggested revision:</p> <p><b>Requirement 16:</b> The Reliability Authority (RA) shall document instances of exceeding identified system operating limits (limits that if exceeded could lead to instability, etc.) and shall document, log and report on instances where a system operating limit has been exceeded for a specified period of time.</p> <p><b>Measure(s):</b></p> <ol style="list-style-type: none"> <li>1. Data exists and is retrievable that documents instances of exceeding identified system operating limits</li> <li>2. Record of violations is in existence for at least three years that identifies violations (instances where a system operating limit has been exceeded for a specified period of time)</li> <li>3. Complete report filed with applicable Compliance Monitor within 72 hours of exceeding a system operating limit for a specified period of time (includes data and time of event, magnitude and duration of violation, actions taken and explanation of results of actions)</li> </ol> <p><b>Outcome(s) (100% Compliance):</b> The RA shall have retrievable information that documents exceeding identified system operating limits. The RA shall have daily operating logs and supporting documentation to show the magnitude and duration of violations (EMS or other source of data). Logs and supporting documentation shall be available for review for at least three years. The RA shall file a complete report (including date and time of event, magnitude and duration of</p>

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	<p>violation, actions taken and explanation of results of actions) with its Compliance Monitor when a defined limit has been exceeded for a specified time period. The report shall be filed within 72 hours of the event.</p>
<p>We apologize for the confusion in the differences between the two versions of the standard. There were many comments indicating that the requirement be changed, and since we asked commenters to use the 'long' version of the standard when completing this form, we defaulted to the long version to make our revisions.</p> <p>The standard was revised to add more clarity to the type of system operating limit being addressed in this standard, and to the distinction between violations that must be documented and violations that must be documented and reported.</p> <p>The Facility Ratings SAR included a definition of system operating limits, but did not develop a term for the subset of system operating limits addressed in this standard.</p> <p>The revised standard addresses just the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. In this standard, they are called, 'interconnection reliability operating limits', or IROLs.</p> <p>IROLs are system operating limits that are calculated according to the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. Each of these IROLs has a time component called <math>T_v</math>. <math>T_v</math> represents the period of time a limit can be exceeded before the risk to the interconnection is too severe. The RA establishes the <math>T_v</math> for each IROL.</p> <p>Instances of exceeding an IROL for any length of time must be documented – and instances of exceeding an IROL for a time greater than or equal to the IROL's <math>T_v</math> must be reported.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>What is meant by "specified period of time" in the statement "The Reliability Authority shall document . . . exceeded for a specified period of time?" Agreement to this requirement will have to wait until meaning of "specified period of time" is specified.</p> <p>In many cases, a complete and final report cannot be produced within 72 hours. This requirement would be feasible if its requirement were for a preliminary report within 72 hours.</p> <p>This requirement may be a heavy burden on the RA staff depending on the detail required in the documentation. Will the compliance monitor take immediate action on a report filed within 72 hours, what will the compliance monitor do with these reports, what is the compelling reason for providing these reports within 72 hours?</p>
<p>Each IROL has consists of both a magnitude component and a duration component (called its <math>T_v</math>). Although today Operating Policy 2 gives system operators a flat 30 minutes to resolve a system operating limit violation, thirty minutes may be too risky a time for resolving some limits – and a longer time may represent an appropriate risk for other limits. One of the intents in the development of new standards is to question the basis for establishing strict performance objectives that may impact markets. The SDT couldn't identify a technical reason for requiring a 30-minute response time to all limits.</p> <p>The DT revised the text to more clearly indicate the Standard's requirement 'to complete' a high level report (not a 'complete' report with all the details and Lessons Learned). The revised standard indicates that the only data being reported is the factual data immediately available at the conclusion of an event. The report addressed in this standard does not ask for an analysis of the event – there is another standard, "Monitor and Analyze Disturbances, Events and Conditions" that is expected to require more detailed analyses of operating events.</p> <p>In response to comments on the reporting timing requirements, the DT revised the time to 5 business days.</p>	
<p>James Stanton Calpine #5</p>	<p>No</p> <p>Suggest changing "instances of exceeding identified system operating limits" to "instances of identified system operating limits being exceeded" Also, in the</p>

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	Measures #1, "Data exists and is retrievable" retrievable by whom? Should be all interested parties.
<p>The revised standard includes the term, interconnection reliability operating limit or IROL – in the revised standard we've used the term so we didn't have to use 'identified'.</p> <p>The references throughout the standard to having data that is retrievable are meant to indicate that when an entity is audited, the data must be made available to show the compliance monitor.</p> <p>There doesn't seem to be a reliability-related reason for having data available to all entities – and some of the data may include commercially sensitive information. If there is a reliability-related reason for sharing this data, please let us know on the next posting of this standard.</p>	
Ed Stein Firstenergy Sol #6	<p>No</p> <p>This is very confusing because this standard does not identify which operating limits have to be reported and what conditions trigger a reporting event. As an example; a construction project requires a reconfiguration of a power plant substation. This reconfiguration creates a situation where the generating units operating at full load may go unstable with a three phase fault outside the substation and a breaker fail to trip condition. Operational planning studies will show that reducing the plant generation to 60% allows the units to remain stable during the fault conditions. Does this become an operating limit? What happens if the transmission operator elects to take the chance and keep the units operating at full load because the system is capacity short, the UN peace keeping negotiating team is in town, and the probability of having a bolted three phase fault with a stuck breaker is very,very low. Has the operator violated an operating limit? Does the operator have to complete a violation document? This standard has to define what is a violation and when does the violation have to be reported and documented.</p>
<p>There are many System Operating Limits that will be identified following the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. The revised standard addresses just the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. In this standard, they are called, 'interconnection reliability operating limits', or IROLs.</p> <p>IROLs are system operating limits that are calculated according to the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. Each of these IROLs has a time component called <math>T_v</math>. <math>T_v</math> represents the period of time a limit can be exceeded before the risk to the interconnection is too severe. The RA establishes the <math>T_v</math> for each IROL.</p> <p>Instances of exceeding an IROL for any length of time must be documented – and instances of exceeding an IROL for a time greater than or equal to the IROL's <math>T_v</math> must be reported.</p> <p>The issue raised in the comment is that of unit stability verses interconnection stability. If the unit's stability affects the integrity of the interconnection then that unit's limits are, by definition, an IROL and therefore covered under this Standard. If the only effect of the limit violation is the instability of a single unit, or single plant then that is a system operating limit (but it is not an IROL).</p> <p>Under this Functional Model, the RA has the responsibility for system reliability. The RA is the one who decides what risks are acceptable. A TOP will be obligated under this standard to follow the orders of the RA.</p>	
Ed Riley CA ISO #2	<p>No</p> <p>The Requirement should be amended to add the following on the end: "..and action taken to return the system to normal status".</p> <p>Also, although the CAISO is recommending removal of the compliance portions, it would like to take the opportunity to suggest a more practical and reasonable time frame for the requirement on filing a report in the event of a violation. The CIASO would like to suggest that in place of "72 hours" that the body that establishes the compliance requirements consider changing the requirement to "5 business days".</p>

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<p>The requirement was adopted in concept. In the revised standard, the requirement states that the RA shall complete an IROL Violation Report for all instances of exceeding an IROL for a time greater than <math>T_v</math>. The report requires that the RA provide the actions taken to return the system to normal. The revised measures also support the inclusion of documentation to identify what actions were taken.</p> <p>There were several comments suggesting changes to the 72 hour reporting time and the standard was revised to adopt your suggested 5 business days.</p>	
<p>Doug Hils Cinergy #1</p>	<p>No</p> <p>Cannot agree without knowing the complete definition of "exceeding identified system operating limits" is.</p>
<p>The standard was revised to more clearly identify that its focus is on operating without exceeding any interconnection reliability operating limits (IROLs). IROLs are system operating limits that are calculated according to the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. Each of these IROLs has a time component called <math>T_v</math>. <math>T_v</math> represents the period of time a limit can be exceeded before the risk to the interconnection is too severe. The RA establishes the <math>T_v</math> for each IROL. In the revised standard, instances of exceeding an IROL for any length of time must be documented and instances of exceeding an IROL for a time greater than or equal to <math>T_v</math> must be documented and reported.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>No</p> <p>It is unclear as to how the system operating limits are established and by who. It is also unclear what the specified period of time that the system exceeds the limit is established and by who. These limits and time periods must be known and pre-approved in a process where all parties that may be affected by the violation can comment.</p>
<p>There are many System Operating Limits that will be identified following the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. The revised standard addresses just the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. In this standard, they are called, 'interconnection reliability operating limits', or IROLs.</p> <p>IROLs are system operating limits that are calculated according to the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. Each of these IROLs has a time component called <math>T_v</math>. <math>T_v</math> represents the period of time a limit can be exceeded before the risk to the interconnection is too severe. The RA establishes the <math>T_v</math> for each IROL.</p> <p>Although today Operating Policy 2 gives system operators a flat 30 minutes to resolve a system operating limit violation, thirty minutes may be too risky a time for resolving some limits – and a longer time may represent an appropriate risk for other limits. One of the intents in the development of new standards is to question the basis for establishing strict performance objectives that may impact markets. The SDT couldn't identify a technical reason for requiring a 30-minute response time to all limits.</p> <p>The responsibility for establishing system operating limits is defined in the Functional Model.</p>	
<p>Alan Boesch NPPD #1</p>	<p>No</p> <p>What is the "specified period of time"? Will this period be defined in this standard? What is the importance of getting this information to the Compliance Monitor in 72 hours? What will the compliance monitor do with the report? What is the basis for having the data available for three years?</p>

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<p>IROLs are system operating limits that are calculated according to the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. Each of these IROLs has a time component called <math>T_v</math>. <math>T_v</math> represents the period of time a limit can be exceeded before the risk to the interconnection is too severe. The RA establishes the <math>T_v</math> for each IROL.</p> <p>The standard was revised to extend the reporting time to 5 business days.</p> <p>The Compliance Monitor will review the results of the submitted reports and apply non-compliance sanctions as required.</p> <p>The current practice is for the compliance monitor to audit each entity once every three years. The three year data retention period ensures that there will be some data on hand for the compliance monitor to review.</p>	
<p>Tom Petrich (5) PG&amp;E #1</p>	<p>No</p> <p>The 72 hours time requirement to file a complete report may not provide allowance for emergencies.</p>
<p>The standard was revised to extend the reporting time to 5 business days. The data requested in this report is simply factual data that should be immediately available and does not ask for an analysis of the causes of the event.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>ISO New England does not believe that we should identify specific limits which must be reported on. Rather, we advocate internally reporting on every violation which does not clear within 30 minutes (as defined in NERC policy). Subsequently, each reported violation will be studied/examined to see if it would have caused instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk power transmission system (have an Inter-Area impact following next contingency). If so, ISO New England would report this "OSL violation" to NPCC and NERC with 72 hours. If there would not have been an Inter-Area impact (i.e. the impact would have been localized within the offending Control Area's boundary), no external reporting will occur. We suggest this approach be adopted.</p> <p>By restricting reporting to pre-identified limits, NERC may not be getting the information they seek through this Standard. Only through a post-operational assessment, can a true analysis (with the correct system configuration) be performed and an adequate judgement be made on the potential impact to the bulk power system.</p> <p>We also believe that data should not be archived unless the limit is not cleared within 30 minutes. We do not advocate archiving data for every limit violation regardless of the time in which this was cleared.</p>
<p>There are many System Operating Limits that will be identified following the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. The revised standard addresses just the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. In this standard, they are called, 'interconnection reliability operating limits', or IROLs. This supports the purpose of this standard, as defined in the scope of the associated SAR.</p> <p>IROLs are system operating limits that are calculated according to the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. Each of these IROLs has a time component called <math>T_v</math>. <math>T_v</math> represents the period of time a limit can be exceeded before the risk to the interconnection is too severe. The RA establishes the <math>T_v</math> for each IROL.</p> <p>Although today Operating Policy 2 gives system operators a flat 30 minutes to resolve a system operating limit violation, thirty minutes may be too risky a time for resolving some limits – and a longer time may represent an appropriate risk for other limits. One of the intents in the development of new standards is to question the basis for establishing strict performance objectives that may impact markets. The SDT couldn't identify a technical reason for requiring a 30-minute response time to all limits.</p> <p>The revised standard clarifies that the data to be archived for instances of exceeding an IROL for a time</p>	

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<p>less than the IROL's <math>T_v</math> may be a system log if that log contains the actions taken or directives issued to resolve the event.</p>	
<p>Compliance Managers</p>	<p>There is no requirement to have a separate Performance Standard for a report. It seems that this would be more appropriately included in the Compliance Program. As example, as part of the Compliance Program, there would be a requirement for the RA to file a report within 72 hours of exceeding a System Operating Limit for greater than 30 minutes.</p> <p>The information required in the report would be included in the compliance program. Similarly, other data which should be included in the Compliance program, but not in the Performance Standard would be:</p> <ul style="list-style-type: none"> <li>• Type of Compliance Assessment required: Periodic Audit, Investigation, Self Assessment etc</li> <li>• Applicable to</li> <li>• Monitoring responsibilities</li> <li>• Compliance assessment notes</li> <li>• Multipliers for penalties</li> <li>• Reset Periods</li> <li>• Data Retention requirements</li> <li>• Occurrence period</li> </ul>
<p>Under the new standards development process, if you want to hold an entity responsible for completing a report, then the report must be addressed in the standard. Several of the items suggested here are already included in each standard, as specified in the Reliability Standards Process Manual.</p>	
<p>Ray Morella Joanne Borrell FirstEnergy #1, 3 Fred Frederick Vectren #3</p>	<p>No</p>
<p>George Bartlett Entergy Svcs 1</p>	<p>Yes/No</p> <p>How can an RA prove the negative, that is, how can they prove that a violation of system operating limits did not occur, unless they keep all operational data for some length of time? NERC needs to carefully consider this requirement, as the operational data generated on an hourly basis with a 4 second scan rate is unbelievably voluminous. We would prefer that a short rolling time limit be set for the retention of all EMS data, such as 3 months. There should be some kind of investigation procedure that triggers the analysis of this data on a post-event basis.</p>
<p>The standard has been revised to require significantly less data. Under the revised standard, the RA only needs to compile data that shows the directives issued, the magnitude and duration of exceeding the IROL. In most cases, the data is already collected on the operating log.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>Yes</p> <p>Manitoba Hydro is concerned about the amount of data that may be required to be collected for this requirement. Perhaps there needs to be some sampling process or investigation only when multiple violations occur or when a system disturbance results</p>
<p>The IROLs addressed in this standard are a subset of System Operating Limits. IROLs and there should not be many of them. In the revised standard, there is clarification to indicate that system operating logs may be sufficient documentation to show that actions were taken or directives were issued.</p>	

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Darrel Richardson Illinois Power #1, 3	Yes The requirement of “within 72 hours” seems to be rather quick.
The standard was revised to extend the reporting time to 5 business days. The data requested in this report is simply factual data that should be immediately available and does not ask for an analysis of the causes of the event.	
Roman Carter So Co Gen 3,5,6 (6 members)	Yes Are there current reports available to better identify what the cause was for exceeding the security limit and would this report be available within 72 hours to meet the documentation requirement above. If not, maybe the timeframe should be changed.
The standard was revised to more clearly indicate the requirement is ‘to complete’ a high level report (not produce a ‘complete’ report with all the details and Lessons Learned). There is another standard that addresses analysis of events, and the ‘complete’ report referenced in your comments should fall under that standard.  The standard was also revised to extend the reporting time to 5 business days. The data requested in this report is simply factual data that should be immediately available and does not ask for an analysis of the causes of the event.	
Todd Lucas (6?) Southern Co #1	Yes Agree assuming reporting requirements are commensurate with comments for question 6 & 7.
The standard was revised to more clearly indicate the requirement is ‘to complete’ a high level report (not produce a ‘complete’ report with all the details and Lessons Learned). There is another standard that addresses analysis of events, and the ‘complete’ report referenced in your comments should fall under that standard. The standard was also revised to extend the reporting time to 5 business days.	
Tony Jankowski We-Energies #4	Yes Would be good to expand Measure #1 to include an annual summary report that identifies all limit exceedences, duration and number of events.
What is the reliability-related need for an annual report?	
Toni Timberman BPA #1	Yes Requirement should state that “report within 72 hours” on instances...  Rather than use “where a system operating limit has been exceeded for a specified period of time” should use “where a reportable violation occurred” and define “reportable violation” elsewhere. In Measure 3, “magnitude” of violation is mentioned for the first time in this standard. I can find no place that includes magnitude as a characteristic of a reportable violation. Suggest moving (EMS or other source of data) to be directly after “supporting documentation” to make it clear that this is what is meant by “supporting documentation”. Duration of violation must be defined...is it just the time of the red-hash mark area of the chart, or is it the yellow area plus the red-hashed area? In measure 3, should “event” be replaced with “reportable violation”?
The revised measure says, ‘An Interconnection Reliability Operating Limit Violation Report completed and filed with its compliance monitor within five business days of the initiation of the event.’  In response to the comments about the magnitude of the violation. When this standard was first posted, the Determine Facility Ratings standard hadn’t been drafted and this SDT wasn’t sure if the Determine Facility Ratings Team would define an IROL with a magnitude and time component. Since then, the Facility Ratings team has drafted their standard, and it doesn’t include the definition of an IROL – so we have added it to this standard. Each IROL has a duration component called its Tv. If an IROL is exceeded for a time greater than or equal to the Tv, then the event must be reported to the compliance monitor.  Consider the current concept that a control area has 30 minutes to get back under an OSL. In this	

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<p>example the time period (per the SAR chart) is 30 minutes. Prior to the 30 minutes the interconnection is at risk of collapse from a contingency event, but because NERC allows 30 minutes to respond the control area is compliant with NERC standards. The proposed standard's chart shows this 0 to 30 minute period as the Yellow area. The interconnection is at risk but the entity is compliant. An 'event' has occurred but the entity is compliant. After T minutes (in this case 30 minutes) the 'event' becomes a non-compliance matter.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>Yes System Operating Limit should be in caps to be consistent with the definition on page 2. What is the significance of a three year retention requirement? Suggest a one year retention requirement.</p>
<p>The format for Reliability Standards limits capitalization to proper nouns. The three year retention requirement supports the current practice of auditing each entity once every three years.</p>	
<p>Lee Westbrook Oncor #1</p>	<p>Yes Who specifies the "specified period of time"?</p>
<p>The time period is the IROL's <math>T_v</math> and this is established by the RA.</p>	
<p>Kim Warren IMO #2</p>	<p>Yes Clarify the distinction between "document" and "log". I would think that logging is sufficient.</p>
<p>The standard was revised to clarify that log is a type of document and could be sufficient documentation if it contained all the necessary data.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>Yes However, there are too many "irons in the fire" just now. The NERC OC has a task force working on this particular issue, and as indicated in the March OC meeting highlights, have directed the Reliability Coordinators to "field test" the OLDTF's definition and reporting form. The results of this "field test" need to be considered in this requirement.</p>
<p>The DT is not empowered to suspend the process on its own. If FRCC would like to affect the OC activities, the FRCC should contact the SAC and the standing committees and make such a motion. The field testing of the OLDTF's proposal does not affect this publicly-debated standard. The OLDTF is addressing today's standards and Policies; this Reliability Standard is being processed by an independent public process.</p>	
<p>Alan Johnson Mirant #6 Albert M. DiCaprio MAAC #2 Bob Burkard NCMPA1 # 3,4,5 Dilip Mahendra SMUD #1 Francis Halpin BPA Bus Line #5,6 Joe Minkstein PG&amp;E #5 John Blazekovich Exelon #1,3,5,6 Joseph Buch Madison #4 Karl Kohlrus CWL&amp;P #5 Lee Xanthakos SCE&amp;G #1 Mike Miller Southern Co #1 Richard Kafka Pepco #1 Richard Schwarz PNSC #2 Stuart Goza TVA #1 William Smith Allegheny Pwr #1</p>	<p>Yes</p>

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### 41. Requirement 16 - Do you agree with these levels of non-compliance for this requirement?

#### Original Levels of Non-compliance

1. Report filed on time but incomplete
2. Not Applicable
3. One of the following:
  - Logs were available but supporting documentation was unavailable
  - Supporting documentation indicated unlogged violation
  - An incident occurred and there was no report within 72 hours
4. Documentation didn't exist

#### Revised Levels of Non-compliance: None – this requirement was combined with the requirement for 'actions'. The levels of non-compliance for the revised 'actions' requirement are:

1. An IROL exceeded and no documentation to indicate what actions were taken or directives were issued to mitigate the instance
2. Not applicable
3. Not applicable
4. IROL exceeded for time greater than or equal to  $T_v$  minutes

#### Summary Consideration:

This requirement was merged with the requirement for taking actions. The levels of non-compliance were modified to apply a mild sanction for not having filed a report a severe sanction for exceeding an IROL for a time greater than or equal to  $T_v$  minutes.

Alan Boesch NPPD #1	No Why is the timing of the report so important?
The timing of the report is not critical – but without some time factor, there is no incentive or direction on how quickly the report must be filed. Without a due date, some entities may not file the reports.	
Albert M. DiCaprio MAAC #2	No This requirement is a documentation requirement not a filing requirement (i.e. Level 1 is inappropriate)
The levels of non-compliance were adjusted in support of your comment	
Charles Yeung Reliant Energy #6	No These non-compliance levels do not specify what the conditions for an "incident" are. Does the standard rely on the definition of "reportable incident" proposed in Question #5 as the threshold for compliance measurement?
The revised standard does indicate what instances need to be reported – all instances where an IROL has been exceeded for time greater than or equal to the IROL's $T_v$ .	
Tom Petrich (5) PG&E #1	No The requirement for producing supporting document and corresponding unlogged violation seems too prescriptive and do not make allowance for emergencies, when keeping the system together should be more important than filling out forms.

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<p>The standard was revised to clarify what documentation must be kept. The documentation requested is simply factual information that should be immediately available – this standard does not require an analysis of the cause of the event.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>No Following up on our comments in 40, we believe that the levels would be 1. Some data was available but not enough to complete the analysis. Report was filed on time but was incomplete. 2. Not Applicable. 3. (We agree with level 3 as shown.) and 4) Data was wholly missing and / or documentation didn't exist.</p>
<p>The data that is required is simple factual data that should be immediately available.</p>	
<p>Sam Jones ERCOT #2OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>No Level 3 implies a log is kept, but the information could be kept in some other form. The important point is that the supporting documents be available. Also, please refer to our response to Q40 and suggestion that the report be split into preliminary and final versions. <i>{ First, we believe this applies to IRL Compliance Violations only. Also, should split into a Preliminary Report and a "complete" Report. Preliminary Report should be submitted within 72 hours. A longer time is required for the "complete" report; probably a minimum of one month.}</i></p>
<p>The standard was revised to more clearly state that a log or other document must be kept to document actions taken or directives issued; magnitude and duration of event. The report being addressed in this standard is simply a factual report of the data immediately available at the end of the event – this standard does not require an analysis of the event. There is another standard that is expected to require an analysis of events.</p>	
<p>Susan Morris SERC #2 Thomas Pruitt Duke #1 Robert Reed TS (See List)</p>	<p>No Question 40 needs to be addressed and resolved before the levels of non-compliance can be determined. <i>{ Delay this requirement until the OLDTF collaborates with the SDT to define "operating limits". These new limit definitions must also go through the standards process before formal implementation.}</i></p>
<p>The OLDTF submitted their report to the SDT during this draft standard's public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed. The new definitions included in this standard are being posted for comment when the revised standard is posted for comment.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>No It is premature to develop compliance levels at this time.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>Ed Riley CA ISO #2</p>	<p>No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>Guy Zito (See List)</p>	<p>No</p>

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<p>NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>No FRCC would like to wait until the "field test" of the OLDTF recommendation is completed to understand this requirement and its levels of non-compliance before commenting</p>
<p>The work of the OLDTF is in parallel with the work on the development of this standard. Since the OLDTF is testing measures that aren't the same as the measures in this standard, and since the report being tested by the OLDTF is asking for elements that aren't required under this standard, the results of the OLDTF field test have only minimal relevance to this standard.</p>	
<p>Doug Hils Cinergy #1</p>	<p>No Under some complicated conditions the 72 hours time limitation is too restrictive to investigate, and supply anything more than a preliminary report of a violation. More time could be required to investigate, compile, and supply the complete documentation of a violation.</p>
<p>The data required for the IROL Violation Report is simply factual data that is immediately available. This standard does not require an analysis of the causes of the event.</p>	
<p>Vern Colbert Dominion #1 Fred Frederick Vectren #3</p>	<p>No</p>
<p>Todd Lucas (6?) Southern Co #1</p>	<p>Yes Agree assuming reporting requirements are commensurate with comments for question 6 &amp; 7.</p>
<p>The requirements were modified so that the types of events that must be reported have been clearly identified as instances of exceeding IROLs for time greater than or equal to the IROL's T<sub>v</sub>.</p>	
<p>Toni Timberman BPA #1</p>	<p>Yes need to clearly define "supporting documentation" vs. "documentation". What about if a complete report was filed but it came after 72 hours? Is it preferable to file an incomplete report on time and follow up with a complete report later? Also – should "incident" be replaced with "reportable violation"?</p>
<p>The standard was revised to eliminate the need for 'supporting documentation'. In the revised standard, the measures indicate that a log may be sufficient documentation if it contains the data listed. The levels of non-compliance were modified and having a 'complete' report is no longer emphasized. The word, 'incident' was replaced with more specific language to indicate that the report is for instances of exceeding IROLs for time greater than or equal to the IROL's T<sub>v</sub>.</p>	

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<p>Alan Johnson Mirant #6          Bob Burkard NCMPA1 # 3,4,5          Darrel Richardson Illinois Power #1, 3          Dilip Mahendra SMUD #1          ECAR Ops Panel #1 – 8 #5 – 1 #2 - 2          Ed Stein Firstenergy Sol #6          Francis Halpin BPA Bus Line #5,6          Gerald Rheault Manitoba #1,3,5,6          James Stanton Calpine #5          Joanne Borrell FirstEnergy Sol #3          Joe Minkstein PG&amp;E #5          John Blazekovich Exelon #1,3,5,6          Joseph Buch Madison #4          Karl Kohlrus CWL&amp;P #5          Kathleen Goodman ISO NE #2          Kim Warren IMO #2          Lloyd Linke MAPP #2          Mike Miller Southern Co #1          Peter Burke ATC #1          Raj Rana AEP #1,3,5,6          Ray Morella FirstEnergy #1          Richard Schwarz PNSC #2          Roman Carter So Co Gen 3,5,6 (6 members)          Stuart Goza TVA #1          Tony Jankowski We-Energies #4          William Smith Allegheny Pwr #1</p>	<p>Yes</p>
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**42. Requirement 17 - Do you agree with this requirement and its associated performance/outcome and measure/s?**

<p><b>Original Requirement</b></p> <p>The Transmission Operator (TOP) shall document instances of exceeding identified system operating limits</p> <p><b>Measure(s)</b> Data exists and is retrievable</p> <p><b>Outcome(s)</b> The TOP shall have retrievable information that documents instances when it exceeded identified system operating limits.</p>
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**Revised Requirement: None**

**Summary Consideration:**

Many commenters indicated that this requirement should not be assigned to the TOP and a review of the Functional Model supports this position. This standard addresses just the subset of system operating limits that, if exceeded, could result in instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. In this revised standard, these limits are called interconnection reliability operating limits or IROLs. Under the Functional Model, the TOP is responsible for local network integrity and therefore could not be assigned the default responsibility of controlling the system to stay within these IROLs. This requirement was dropped from this standard. Because so many entities were in favor of a requirement for the TOP to monitor some system operating limits and report on exceeding those limits, the SDT sent a letter to the Director of Standards to inform him that there may be a need for another standard that addresses the TOP’s responsibilities in protecting local network integrity.

Albert M. DiCaprio MAAC #2	No The TOP may do this for the RA, but it need not be a TOP function.
This requirement was dropped from this standard.	
Richard Kafka Pepco #1	No This is self monitoring by the TOP
This requirement was dropped from this standard.	
Lee Xanthakos SCE&G #1	No Why would the TOP do this if the RA is already doing it in Requirement 16? There is not need for the duplication.
This requirement was dropped from this standard.	
Gregory Campoli NY ISO #2	No This requirement needs to be developed following the work of the NERC OLD TF.

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<p>This requirement was dropped from this standard.</p> <p>The work of the OLDTF is taking place in parallel with the development of this standard. The OLDTF is addressing today's standards and Policies; this Reliability Standard is being processed by an independent public process.</p>	
<p>David Kiguel Hydro One #1 Guy Zito (See List) NPCC #2 – 2 NPCC #1 - 5</p>	<p>No</p> <p>This aspect of the standard should be coordinated with the NERC OLD, Operating Limit Definition, Task Force . Presenting a standard that doesn't represent the current intentions of the OLD TF may produce RS that may be in conflict with the current understanding of the NERC Operating Committee. Therefore we recommend delay of further development of this RS until the work of the OLD TF is complete and approved. Please see our comments under item # 44 (Regional and Interconnection Differences).</p>
<p>The work of the OLDTF is taking place in parallel with the development of this standard. . Since the OLDTF is testing measures that aren't the same as the measures in this standard, and since the report being tested by the OLDTF is asking for elements that aren't required under this standard, the results of the OLDTF field test have only minimal relevance to this standard.</p>	
<p>OLDTF (9?) 6 - #2 1 - #1,5 Sam Jones ERCOT #2</p>	<p>No</p> <p>This Requirement needs to be reviewed with respect to the OLDTF report. If the Requirement refers to documenting SOL violations as defined by the OLDTF, then reporting may be required to the Regional Council. If the requirement refers to IRL Compliance Violations, then the RA needs to submit that report to the Regional Council and NERC.</p>
<p>The work of the OLDTF was submitted during the public posting of this standard and was considered as were all comments submitted during the public posting process.</p> <p>The SDT adopted most of the concepts proposed in the OLDTF report, but did not adopt all the specifics. As an example, the OLDTF is using a '30-minute' response time for all IRLs – this was not adopted for the proposed standard. As the new standards are being developed, the teams are challenging the establishment of requirements that aren't technically justified because they may have an unnecessary adverse impact on markets. The SDT couldn't identify a technical basis for a standard 30-minute response time – and could identify reliability-related scenarios where exceeding a limit for 30 minutes may be too long, and other scenarios where exceeding a limit for longer than 30 minutes may not pose an unacceptable risk to the interconnection.</p>	
<p>Vern Colbert Dominion #1</p>	<p>No</p> <p>See #40.</p> <p><i>{ Wait until the OLDTF study is complete.}</i></p>
<p>The work of the OLDTF was submitted during the public posting of this standard and was considered as were all comments submitted during the public posting process.</p> <p>The SDT adopted most of the concepts proposed in the OLDTF report, but did not adopt all the specifics. As an example, the OLDTF is using a '30-minute' response time for all IRLs – this was not adopted for the proposed standard. As the new standards are being developed, the teams are challenging the establishment of requirements that aren't technically justified because they may have an unnecessary adverse impact on markets. The SDT couldn't identify a technical basis for a standard 30-minute response time – and could identify reliability-related scenarios where exceeding a limit for 30 minutes may be too long, and other scenarios where exceeding a limit for longer than 30 minutes may not pose an unacceptable risk to the interconnection.</p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>No</p> <p>See comments to question 40.</p> <p><i>{ However, there are too many "irons in the fire" just now. The NERC OC has a task force working on this particular issue, and as indicated in the March OC meeting highlights, have directed the Reliability Coordinators to "field test" the</i></p>

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	<i>OLDTF's definition and reporting form. The results of this "field test" need to be considered in this requirement.}</i>
<p>The field testing of the OLDTF's proposal does not affect this publicly-debated standard. The OLDTF is addressing today's standards and Policies; this Reliability Standard is being processed by an independent public process.</p> <p>The OLDTF submitted their report to the SDT during this draft standard's public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed.</p>	
Robert Reed TS (See List)	<p>No See 40.</p> <p><i>{ Delay this requirement until the OLDTF collaborates with the SDT to define "operating limits". These new limit definitions must also go through the standards process before formal implementation.}</i></p>
<p>The OLDTF submitted their report to the SDT during this draft standard's public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed.</p>	
Charles Yeung Reliant Energy #6	<p>No</p> <p>Same comments as for questions #34 and #40.</p> <p><i>{ It is unclear what the relationship and responsibilities of the TOP are as compared to the RA. The Standard proposes the same language for both functions. What is the reporting relationship and operational hierarchy between the RA and the TOP? Is the TOP analysis more "local" in nature than the RA analysis? What if each one's analysis does not agree? Which analysis will prevail to ensure grid reliability?}</i></p> <p><i>{ It is unclear as to how the system operating limits are established and by who. It is also unclear what the specified period of time that the system exceeds the limit is established and by who. These limits and time periods must be known and pre-approved in a process where all parties that may be affected by the violation can comment.}</i></p>
<p>This requirement was dropped from this standard. This requirement is the responsibility of the RA and not the TOP. The system operating limits addressed in this standard are set by the RA following the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. The time component (T<sub>v</sub>) is added by the RA when the limit is identified as an IROL type of system operating limit. The TOP also establishes some system operating limits – but the limits established by the TOP are aimed at protecting the reliability of local networks. The system operating limits established by the TOP are also established following the Determine Facility Ratings ... standard.</p>	
Raj Rana AEP #1,3,5,6	<p>No</p> <p>We agree with the intent, but for this requirement the language is too brief. How long must the TOP keep this data?</p>
<p>This requirement was dropped from this standard. For the same requirement assigned to the RA, the data must be retained for three years. The reason for the three years is to ensure that when the compliance monitor conducts its routine audit, there will be some data to review. Compliance monitors currently review each entity once every three years.</p>	
Peter Burke ATC #1	<p>No</p> <p>The requirement's use of the word "identified" creates confusion by implying the existence of OSL's not identified or, worse, that the TOP requirement is somehow dependent on the TOP's act of identifying something which invites</p>

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	<p>failure, intentional or otherwise, to identify and document violations.</p> <p>Must all OSL violations fall under the purview of this standard or only those OSL violations with regional impact? If this standard applies for every violation, including minor line overloads, etc., the documentation and reporting requirements would be overwhelming.</p> <p>The requirement should dictate how long documentation must be retained.</p>
<p><a href="#">This requirement was dropped from this standard.</a></p> <p><a href="#">Under the revised standard, the RA must identify the subset of all system operating limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system – these limits are interconnection reliability operating limits or IROLs.</a></p> <p><a href="#">The revised standard indicates that the operating log may be sufficient documentation if it contains the actions taken or directives issued, and the magnitude and duration of exceeding the IROL.</a></p>	
<p>ECAR Ops Panel</p> <p>#1 – 8</p> <p>#5 – 1</p> <p>#2 - 2</p>	<p>No</p> <p>1) The existing NERC template on Operating Security Limits is confusing. This standard is much, much, much more confusing. There are many system operating limits. This standard does not say which system operating limit has to be reported and under what conditions it has to be reported. Do you have to report a system operating limit exceedance that has little impact on bulk power reliability. If so you'll get thousands of irrelevant reports every week for minor system operating limit exceedances. A report should be filed when a Operating Security Limit has been exceeded for 30 minutes per the existing NERC Policy. See the definition of an Operating Security Limit Violation under item 7 of this questionnaire. Requirement 216 has to be much more specific. If one cannot supply the specifics then this standard is not ready for balloting.</p> <p>2) Requirements 216 and 217 are very similar. Requirement 216 applies to Reliability Coordinators. Requirement 217 applies to Transmission Operators. The requirements are duplicative. The standard should require the documenting of Operating Security Limit violations by either the Reliability Coordinator or the Transmission Operator, but not both of them. There is nothing wrong with both documenting the violations if they so wish, but both of them should not be forced to do so. There is nothing wrong with a Transmission Operator delegating this responsibility to a Reliability Coordinator or a Reliability Coordinator delegating this responsibility to a Transmission Operator. (3) The standard needs to clarify the difference between a reportable incident and an incident that is not reportable but must be documented.</p>
<p><a href="#">This requirement was dropped from this standard.</a></p> <p><a href="#">Under the revised standard, the RA must identify the subset of all system operating limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system – these limits are interconnection reliability operating limits or IROLs.</a></p> <p><a href="#">The revised standard clarifies that each instance of exceeding an IROL must be documented by the RA, and each instance of exceeding an IROL for a time greater than or equal to that IROL's T<sub>v</sub> must be reported by the RA.</a></p>	
<p>Ed Stein</p> <p>Firstenergy Sol #6</p>	<p>No</p> <p>See the response to question 40</p> <p><i>{This is very confusing because this standard does not identify which operating limits have to be reported and what conditions trigger a reporting event. As an example; a construction project requires a reconfiguration of a power plant substation. This reconfiguration creates a situation where the generating units</i></p>

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	<p><i>operating at full load may go unstable with a three phase fault outside the substation and a breaker fail to trip condition. Operational planning studies will show that reducing the plant generation to 60% allows the units to remain stable during the fault conditions. Does this become an operating limit? What happens if the transmission operator elects to take the chance and keep the units operating at full load because the system is capacity short, the UN peace keeping negotiating team is in town, and the probability of having a bolted three phase fault with a stuck breaker is very, very low. Has the operator violated an operating limit? Does the operator have to complete a violation document? This standard has to define what is a violation and when does the violation have to be reported and documented.}</i></p>
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This requirement was dropped from this standard.

Under the revised standard, the RA must identify the subset of all system operating limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system – these limits are interconnection reliability operating limits or IROLs.

The revised standard clarifies that each instance of exceeding an IROL must be documented by the RA, and each instance of exceeding an IROL for a time greater than or equal to that IROL's T<sub>v</sub> must be reported by the RA.

<p>Darrel Richardson Illinois Power #1, 3</p>	<p>No</p> <p>Throughout this SAR, the requirements of the RA and TOP have been pretty much mirrored. However this one seems to be very vague. To some degree Requirement 17 should parallel Requirement 16.</p>
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This requirement was dropped from this standard.

<p>Kathleen Goodman ISO NE #2</p>	<p>No</p> <p>ISO New England does not believe that we should identify specific limits which must be reported on. Rather, we advocate internally reporting on every violation which does not clear within 30 minutes (as defined in NERC policy). Subsequently, each reported violation will be studied/examined to see if it would have caused instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk power transmission system (have an Inter-Area impact following next contingency). If so, ISO New England would report this "OSL violation" to NPCC and NERC with 72 hours. If there would not have been an Inter-Area impact (i.e. the impact would have been localized within the offending Control Area's boundary), no external reporting will occur. We suggest this approach be adopted.</p> <p>By restricting reporting to pre-identified limits, NERC may not be getting the information they seek through this Standard. Only through a post-operational assessment, can a true analysis (with the correct system configuration) be performed and an adequate judgement be made on the potential impact to the bulk power system.</p>
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The DT intent is in complete agreement with NPCC's concept. The issue of pre-identified limits is merely to excuse RAs from being held accountable for studies that were not predictable.

<p>Doug Hils Cinergy #1</p>	<p>No</p> <p>This requirement is too restrictive and would require maintaining a living alarm program to take into account the actual ambient temperatures, actual loading level for rating of equipment that varies by temperature changes. Many alarm levels are set at a temperature extreme and the operators compare the actual temperature and loading to the acceptable level at the given ambient temperature. Alarm files could not be used as a legitimate violation file.</p>
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This requirement was dropped from this standard.

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<p>The standard does not mandate any given approach to computing IROLs; the standards defines when response is required. Dynamic limits are neither forbidden nor required, the RA is expected to make that decision.</p>	
<p>Ray Morella Joanne Borrell FirstEnergy #1, 3, Fred Frederick Vectren #3</p>	<p>No</p>
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>Yes See comment for #40. <i>{Manitoba Hydro is concerned about the amount of data that may be required to be collected for this requirement. Perhaps there needs to be some sampling process or investigation only when multiple violations occur or when a system disturbance results}</i></p>
<p>This requirement was dropped from this standard. The revised requirement for the RA clarifies that an operating log may be sufficient documentation as long as it documents the RA's actions or directives, the magnitude of the event and the duration of the event.</p>	
<p>George Bartlett Entergy Svcs 1</p>	<p>Yes We believe that our answers to questions 40 and 41 are also significant here. <i>{How can an RA prove the negative, that is, how can they prove that a violation of system operating limits did not occur, unless they keep all operational data for some length of time? NERC needs to carefully consider this requirement, as the operational data generated on an hourly basis with a 4 second scan rate is unbelievably voluminous. We would prefer that a short rolling time limit be set for the retention of all EMS data, such as 3 months. There should be some kind of investigation procedure that triggers the analysis of this data on a post-event basis.}</i>  <i>{Following up on our comments in 40, we believe that the levels would be 1. Some data was available but not enough to complete the analysis. Report was filed on time but was incomplete. 2. Not Applicable. 3. (We agree with level 3 as shown.) and 4) Data was wholly missing and / or documentation didn't exist.}</i></p>
<p>This requirement was dropped from this standard. The revised requirement for the RA clarifies that an operating log may be sufficient documentation as long as it documents the RA's actions or directives, the magnitude of the event and the duration of the event. The report addressed in this standard is merely a report of the facts that are immediately available at the end of the event – the report does not require an analysis of the event.</p>	
<p>Roman Carter So Co Gen 3,5,6 (6 members)</p>	<p>Yes Are there current reports available to better identify what the cause was for exceeding the security limit and would this report be available within 72 hours to meet the documentation requirement above? If not, maybe the timeframe should be changed.</p>
<p>This requirement was dropped from this standard. There is another standard that addresses analysis of events. The report addressed in this standard is merely a report of the facts that are immediately available at the end of the event.</p>	
<p>Toni Timberman</p>	<p>Yes</p>

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BPA #1	Requirement is for TOP to document exceeding system limits, regardless of duration? What is "data" in the measure referring to?
<p>This requirement was dropped from this standard. The standard addresses just the subset of system operating limits that, if exceeded, could result in instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. These limits are not under the responsibility of the TOP.</p>	
Lee Westbrook Oncor #1	Yes Words should more closely match Requirement 16.
<p>This requirement was dropped from this standard.</p>	
Kim Warren IMO #2	Yes Is logging not sufficient? Whats the distinction between "document" & "log"?
<p>This requirement was dropped from this standard.</p> <p>The same requirement for the RA was revised to clarify that for many entities, an operating log may be sufficient documentation.</p>	
Thomas Pruitt Duke #1 Todd Lucas (6?) Southern Co #1 Susan Morris SERC #2	Yes See 40. <i>{Delay this requirement until the OLDTF collaborates with the SDT to define "operating limits". These new limit definitions must also go through the standards process before formal implementation.}</i>
<p>The OLDTF is addressing today's standards and Policies; this Reliability Standard is being processed by an independent public process.</p> <p>The OLDTF submitted their report to the SDT during this draft standard's public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed.</p>	
Lloyd Linke MAPP #2	Yes System Operating Limit should be in caps to be consistent with the definition on page 2.
<p>This requirement was dropped from this standard.</p> <p>The format for new Reliability Standards includes capitalization of just proper nouns.</p>	

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Alan Boesch NPPD #1	Yes
Alan Johnson Mirant #6	
Bob Burkard NCMPA1 # 3,4,5	
Dilip Mahendra SMUD #1	
Ed Riley CA ISO #2	
Francis Halpin BPA Bus Line #5,6	
James Stanton Calpine #5	
Joe Minkstein PG&E #5	
John Blazekovich Exelon #1,3,5,6	
Joseph Buch Madison #4	
Karl Kohlrus CWL&P #5	
Mike Miller Southern Co #1	
Stuart Goza TVA #1	
Tom Petrich (5) PG&E #1	
Tony Jankowski We-Energies #4	
William Smith Allegheny Pwr #1	

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**43. Requirement 17 - Do you agree with these levels of non-compliance for this requirement?**

<p><b>Original Levels of Non-compliance</b></p> <ol style="list-style-type: none"> <li>1. Not Applicable</li> <li>2. Not Applicable</li> <li>3. Not Applicable</li> <li>4. Documentation didn't exist</li> </ol>
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<p><b>Revised Levels of Non-compliance: None</b></p>
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**Summary Consideration:**

This requirement and its associated levels of non-compliance have been dropped from this standard.

<p>Gregory Campoli NY ISO #2</p>	<p>No It is premature to develop compliance levels at this time.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>Thomas Pruitt Duke #1 Robert Reed TS (See List)</p>	<p>No Question 42 needs to be addressed and resolved before the levels of non-compliance can be determined.</p>
<p>This requirement and its associated levels of non-compliance have been dropped from this standard.</p>	
<p>Susan Morris SERC #2</p>	<p>No Question 42 needs to be addressed and resolved before the levels of non-compliance can be determined. In general there should be at least two levels of non-compliance identified.</p>
<p>This requirement and its associated levels of non-compliance have been dropped from this standard.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>No It was felt that in order to properly address the compliance issues the RS must be well defined and more development is needed before a determination can be made whether these levels are appropriate.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	
<p>Ed Riley CA ISO #2</p>	<p>No The CAISO feels that the compliance with Standards should be addressed separately from the Standards themselves. Therefore this section should be removed from the Standard.</p>
<p>The new standards development process includes development of the compliance elements in concert with the development of the requirements and measures. By developing both at the same time, the goal is to avoid developing and agreeing on requirements and measures that can't be objectively measured.</p>	

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Ken Skroback AL Elec Coop #4	No If you had no instance of exceeding an operating limit, no documentation would exist and you would be Level 4 non-compliant.
This requirement and its associated levels of non-compliance have been dropped from this standard.	
Karl Kohlrus CWL&P #5	There should be a reminder sent out if the data is not sent initially before going directly to Level 4.
This requirement and its associated levels of non-compliance have been dropped from this standard.	
FRCC 6-#1, 4-#2, 1-#2	No See comments to question 41. <i>{ FRCC would like to wait until the "field test" of the OLDTF recommendation is completed to understand this requirement and its levels of non-compliance before commenting }</i>
<p>This requirement and its associated levels of non-compliance have been dropped from this standard.</p> <p>The field testing of the OLDTF's proposal does not affect this publicly-debated standard. The OLDTF is addressing today's standards and Policies; this Reliability Standard is being processed by an independent public process.</p> <p>The OLDTF submitted their report to the SDT during this draft standard's public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed.</p>	
Sam Jones ERCOT #2	Please see comments to #42 above. <i>{ERCOT agrees with the OLDTF report and feels that this Requirement needs to be reviewed with respect to that report. If the Requirement refers to documenting SOL violations as defined by the OLDTF, then reporting may be required to the Regional Council. If the Requirement refers to IRL Compliance Violations, then the RA needs to submit the report to the Regional Council and NERC.}</i>
<p>This requirement and its associated levels of non-compliance have been dropped from this standard.</p> <p>The field testing of the OLDTF's proposal does not affect this publicly-debated standard. The OLDTF is addressing today's standards and Policies; this Reliability Standard is being processed by an independent public process.</p> <p>The OLDTF submitted their report to the SDT during this draft standard's public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed.</p>	
Vern Colbert Dominion #1 Richard Kafka Pepco #1 Fred Frederick Vectren #3 Albert M. DiCaprio MAAC #2	No
Yes – Comments indicating levels of non-compliance need adjustment	
George Bartlett Entergy Svcs 1	Yes/No Levels of noncompliance should include Level 3, Data doesn't exist. We believe that our answers to questions 40 and 41 are also significant here. <i>{How can an RA prove the negative, that is, how can they prove that a violation of system operating limits did not occur, unless they keep all operational data for</i>

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	<p><i>some length of time? NERC needs to carefully consider this requirement, as the operational data generated on an hourly basis with a 4 second scan rate is unbelievably voluminous. We would prefer that a short rolling time limit be set for the retention of all EMS data, such as 3 months. There should be some kind of investigation procedure that triggers the analysis of this data on a post-event basis.}</i></p> <p><i>{Following up on our comments in 40, we believe that the levels would be 1. Some data was available but not enough to complete the analysis. Report was filed on time but was incomplete. 2. Not Applicable. 3. (We agree with level 3 as shown.) and 4) Data was wholly missing and / or documentation didn't exist.}</i></p>
<p>This requirement and its associated levels of non-compliance have been dropped from this standard. For the same RA requirement, the data addressed in the report is data that is immediately available following an event –the actions taken or directives issued, the magnitude and duration of the event. This standard will not require an analysis of the event. There is another standard that is expected to require an analysis of the event.</p>	
<p>Lloyd Linke MAPP #2</p>	<p>Yes Level #4 should read “Data didn’t exist” instead of “Documentation didn’t exist”</p>
<p>This requirement and its associated levels of non-compliance have been dropped from this standard. The same requirement for the RA was clarified to indicate that the documentation could be an operations log or other document that shows the RA’s actions or directives, and the magnitude and duration of the event.</p>	
<p><b>Yes – Other comments</b></p>	
<p>Darrel Richardson Illinois Power #1, 3</p>	<p>Yes However, the term “documentation” needs to be better defined since this Requirement is so vague.</p>
<p>This requirement and its associated levels of non-compliance have been dropped from this standard. The same requirement for the RA was clarified to indicate that the documentation could be an operations log or other document that shows the RA’s actions or directives, and the magnitude and duration of the event.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>Yes See comments for #40. <i>{ Agree assuming reporting requirements are commensurate with comments for question 6 &amp; 7.}</i></p>
<p>This requirement and its associated levels of non-compliance were dropped from this standard.</p>	

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Alan Boesch NPPD #1 Alan Johnson Mirant #6 Bob Burkard NCMPA1 # 3,4,5 Dilip Mahendra SMUD #1 Doug Hils Cinergy #1 ECAR Ops Panel #1 – 8 #5 – 1 #2 - 2 Ed Stein Firstenergy Sol #6 Francis Halpin BPA Bus Line #5,6 Gerald Rheault Manitoba #1,3,5,6 James Stanton Calpine #5 Joanne Borrell FirstEnergy Sol #3 Joe Minkstein PG&E #5 John Blazekovich Exelon #1,3,5,6 Joseph Buch Madison #4 Kathleen Goodman ISO NE #2 Kim Warren IMO #2 Mike Miller Southern Co #1 Peter Burke ATC #1 Raj Rana AEP #1,3,5,6 Ray Morella FirstEnergy #1 Roman Carter So Co Gen 3,5,6 (6 members) Stuart Goza TVA #1 Tom Petrich (5) PG&E #1 Toni Timberman BPA #1 Tony Jankowski We-Energies #4 William Smith Allegheny Pwr #1	Yes
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**44. Are you aware of any Regional or Interconnection Differences that should be included in this Standard? If so, please identify what you feel should be added.**

<p>David Kiguel Hydro One #1</p>	<p>Yes</p> <p>There are differences in some Areas. For example, in Ontario the IMO is solely responsible to determine operating limits and to direct the operation of the IMO-Controlled Grid within these limits. The Transmission owners/operators operate their respective systems under the IMO's direction. They only provide the IMO with equipment ratings which the IMO must respect. The transmission operators do not determine operating limits or monitor/report their compliance.</p> <p>The standard should reflect jurisdictional differences in the responsibilities assigned to the RA and TOP in some areas.</p>
<p>The revised standard eliminates the duplicate responsibilities for the TOP. In the revised standard, the RA is responsible for establishing the limits and for either acting or directing other entities to act to stay within those limits. The revised standard seems to match the way the IMO is operating, assuming the IMO is acting as an RA.</p>	
<p>Peter Burke ATC #1</p>	<p>No</p> <p>Actually, how would the MISO "Day 2" market, as proposed, conform to the definitions proposed in this new standard?</p>
<p>This standard does not define procedures, it assigns responsibilities.</p> <p>Whoever has the final acknowledged responsibility for shedding load will be the one responsible for identifying IROLs and will be responsible for taking, directing or delegating responses to IROLs. Whoever, serves that role in MISO will be assigned the responsibilities of RA and obligated to comply to this standard. If that entity delegates some other entity to do the calculations and the other group to respond to the IROLs then that entity (i.e. the one doing the delegating) has transferred the obligation but still retains the responsibility.</p>	
<p>Kim Warren IMO #2</p>	<p>Yes</p> <p>Understanding that different companies have different operational setups and duties/requirements can sometimes cross boundary lines between different authorities (i.e. RA/TOP/TOW). In some case the RA and the TOP perform the same functions as defined in this SAR but that entity may not perform other duties such as switching, maintenance or notification of outages or construction plans which are also described as roles that the TOP is accountable for in the Functional Model.</p> <p>In other case, some duties as defined in the SAR process may be duplicated or shared or the accountabilites for which limits may need to be clarified.</p>
<p>This standard does not define procedures, it assigns responsibilities. In the revised standard, the duplicate requirements for the TOP have been dropped.</p> <p>Whoever has the final acknowledged responsibility for shedding load will be the one responsible for identifying IROLs and will be responsible for taking, directing or delegating responses to IROLs. Whoever, serves that role in MISO will be assigned the responsibilities of RA and obligated to comply to this standard. If that entity delegates some other entity to do the calculations and the other group to respond to the IROLs then that entity (i.e. the one doing the delegating) has transferred the obligation but still retains the responsibility.</p>	
<p>Gerald Rheault Manitoba #1,3,5,6</p>	<p>Yes</p> <p>Manitoba Hydro believes that the requirements for monitoring system operating limits in real time in a thermally constrained network and for a stability constrained network are significantly different. The time limitations in a stability constrained network does not allow the RA or TOP to use online reliability analysis tools in the same way as they can be used in a thermally constrained tight network. The RA in a stability constrained network will be required to operate to predefined</p>

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	<p>operating limits which have been determined from extensive operational planning analysis. The RA in a thermally constrained network can operate to real time defined limits because of the much slower system reaction time.</p> <p><b>Requirement 1 and Requirement 2 must be worded in a manner to ensure that both the RA and TOP for thermally constrained and for stability constrained networks can meet the requirements of the Standard.</b></p>
<p>The DT met with representatives of both the OLDTF and the Facilities Rating Standards DT and agreed to adopt the term Interconnection Reliability Operating Limit (IROL). This term refers to what is the subset of system operating limits that, if exceeded, could cause instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>There are many System Operating Limits (using the Facility Ratings Standard’s terminology) , but only those System Operating Limits that could cause instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system will be defined as IROLs The other system Operating Limits are not addressed in this standard.</p>	
<p>Compliance Mgrs Compliance Subcom</p>	<p>The work of the OLDTF has shown that there are differences in the interpretation and response to limit determinations and violations among the interconnections and Regions. The Standard and its compliance measurements should not dictate whether a particular RA should operate in a predictive or a responsive mode (i.e., take action in advance to prevent an overload based on predictive analysis, or take steps to mitigate an actual overload only on occurrence)</p> <p>The above statement is not reflective of most comments, and represents a minority opinion for consideration.</p>
<p>The definition of IROL and the requirement that each RA identify its IROLs and its facilities that are subject to IROLs should help ensure that RAs are interpreting IROLs in the same way across regional boundaries. The standard does require that the RA have an action plan and it is difficult to see the objection to using this plan. How would this be a Regional Difference?</p>	
<p>Susan Morris SERC #2 Robert Reed TS (See List)</p>	<p>Yes</p> <p>The work of the OLDTF has shown that there are differences in the interpretation and response to limit determinations and violations among the interconnections and Regions. The Standard and its compliance measurements should not dictate whether a particular RA should operate in a predictive or a responsive mode (i.e., take action in advance to prevent an overload based on predictive analysis, or take steps to mitigate an actual overload only on occurrence)</p>
<p>The definition of IROL and the requirement that each RA identify its IROLs and its facilities that are subject to IROLs should help ensure that RAs are interpreting IROLs in the same way across regional boundaries.</p>	
<p>Todd Lucas (6?) Southern Co #1</p>	<p>Yes</p> <p>There are differences in the interpretation and response to limit determinations and violations among the interconnections and Regions.</p>
<p>The definition of IROL and the requirement that each RA identify its IROLs and its facilities that are subject to IROLs should help ensure that RAs are interpreting IROLs in the same way across regional boundaries.</p>	
<p>Thomas Pruitt Duke #1</p>	<p>Yes</p> <p>Standards need to be written to accommodate regulatory jurisdictions and the differences that exist between them. In certain jurisdictions, third party disaggregated functions will not be allowed, or will not be allowed to perform in the same manner as in other jurisdictions.</p> <p>The work of the OLDTF has shown that there are differences in the interpretation and response to limit determinations and violations among the interconnections and Regions. The Standard and its compliance measurements should not dictate whether a particular RA should operate in a predictive or a responsive mode (i.e.,</p>

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	take action in advance to prevent an overload based on predictive analysis, or take steps to mitigate an actual overload only on occurrence).
<p>The standard has undergone significant revisions and the duplicate requirements for the TOP have been dropped from this standard. In its revised format, the standard supports the Functional Model and the division of responsibilities between functions. If the revised standard has any requirements that conflict with existing jurisdictional regulatory requirements, please provide specific information letting us know which requirement conflicts with which regulation and the name of the regulatory agency.</p> <p>The definition of IROL and the requirement that each RA identify its IROLs and its facilities that are subject to IROLs should help ensure that RAs are interpreting IROLs in the same way across regional boundaries. The standard does require that the RA have an action plan and it is difficult to see the objection to using this plan.</p>	
<p><b>FRCC</b></p>	
<p>FRCC 6-#1, 4-#2, 1-#2</p>	<p>Yes The FRCC Security Process (Reliability Plan) has requirements for real time and operations planning analysis. NERC needs to be very careful when attempting to require certain periodicity for studies as each region may already have established what it requires.</p>
<p>The revised standard indicates that an operational planning analyses be conducted at least once each day, and that a real-time assessment be conducted at least once every 30 minutes. If FRCC's requirements are less stringent than this, then please let us know so we can ask the industry for feedback on whether or not this is endorsed as a Regional Difference. If FRCC's requirements are more stringent than this, then a Regional Difference is not required as part of this standard.</p>	
<p><b>ERCOT</b></p>	
<p>Sam Jones ERCOT #2 OLDTF (9?) 6 - #2 1 - #1,5</p>	<p>Yes In the ERCOT Region, ERCOT uses ratings provided by the equipment owners to determine the limits. The TOP doesn't determine them. In some Regions or Interconnections, the RA may delegate certain tasks to other functions, though the RA is responsible for ensuring that these tasks are performed. There needs to be some kind of general statement to this effect. Perhaps this is being addressed in the Functional Model.</p>
<p>The IROLs addressed in this standard are developed following the Determine Facility Ratings, System Operating Limits and Transfer Capabilities standard. Under the Facility Ratings Standard, equipment owners provide facility ratings to the RA and TOP for use in determining system operating limits.</p> <p>Whoever has the final acknowledged responsibility for shedding load will be the one responsible for identifying IROLs and will be responsible for taking, directing or delegating responses to IROLs. Whoever, serves that role is fulfilling the responsibilities of RA and is obligated to comply with this standard. If that entity delegates some other entity to do the calculations and the other group to respond to the IROLs then that entity (i.e. the one doing the delegating) has transferred the obligation but still retains the responsibility.</p>	

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<b>SERC</b>	
Vern Colbert Dominion #1	Yes It has been shown that there are significant regional differences both in agreements between TOPs and RAs, and in the modeling capabilities and programs available. The SAR states that regional differences are 'none identified'. This is not true. RA audits in SERC for one identified many differences that should be taken into consideration.
<p>This standard does not define procedures, it assigns responsibilities.</p> <p>The 'none identified' means that during the SAR development process, no Regional Differences related to specific requirements or measures have been identified. This may change as this standard is revised. Regional Differences can be identified during the SAR development or during the standard development phases of this process.</p> <p>If you are aware of any SERC requirement or measure that is less stringent than the requirements and measures in this proposed standard, please submit these as Regional Differences.</p>	
<b>WECC</b>	
Francis Halpin BPA Bus Line #5,6	Yes In the West, differences are settled through the WECC OTCPC process.
<p>The Regional Differences referenced here are requirements or measures that are less stringent in a Region than in the proposed standard. Reference the Reliability Standards Process Manual for a description of Regional Differences.</p>	
Ed Riley CA ISO #2	Yes The usage and definition of the term "violation" varies between the different entities. See definitions offered in comments on question #7.
<p>The revised standard attempts to clarify what is considered a 'violation'. If this definition is not acceptable to WECC, please let us know when the revised standard and its associated definitions are posted.</p>	

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**45. Is the draft standard missing any requirements that should be added. If so, please identify what you feel should be added.**

<p>Compliance Mgrs Compliance Subcomm</p>	<p>There is a need to clearly establish the functional relationships in a NERC document. That is, all load must either be a BA or have a BA. Each BA must have an RA. And so on. With these relationships established, the requirements can be established for the RA and the RA can establish requirements for membership through contracts. This will help to get rid of some Regional differences.</p> <p>1) The OLDTF has definitions that need to be considered prior to finalizing this standard.</p> <p>2) Operating limits that should be secured should include voltage collapse transfer limits in addition to equipment ratings violations.</p> <p>3) Confidentiality of data needs to be addressed. Transmission line flows and generator outputs have commercial implications in real-time market-based systems. The Standard should recognize this concern.</p>
<p>Establishing functional relationships is outside the scope of this SDT.</p> <p>The OLDTF submitted their report to the SDT during this draft standard’s public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed. The SDT met with representatives of both the OLDTF and the Facilities Rating Standards DT and agreed to adopt the term Interconnection Reliability Operating Limit (IROL).</p> <p>This standard does not specifically address voltage collapse transfer limits or equipment ratings violations. This standard addresses any system operating limit that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>Data confidentiality is being addressed as a certification requirement in the Certification SARs currently under development.</p>	
<p>Susan Morris SERC #2</p> <p>Thomas Pruitt Duke #1</p> <p>Todd Lucas (6?) Southern Co #1</p> <p>Robert Reed TS (See List)</p>	<p>Yes</p> <p>1) The OLDTF has definitions that need to be considered prior to finalizing this standard.</p> <p>2) Operating limits that should be secured should include voltage collapse transfer limits in addition to equipment ratings violations.</p> <p>3) Confidentiality of data needs to be addressed. Transmission line flows and generator outputs have commercial implications in real-time market-based systems. The Standard should recognize this concern.</p>
<p>The OLDTF submitted their report to the SDT during this draft standard’s public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed. The SDT met with representatives of both the OLDTF and the Facilities Rating Standards DT and agreed to adopt the term Interconnection Reliability Operating Limit (IROL).</p> <p>This standard does not specifically address voltage collapse transfer limits or equipment ratings violations. This standard addresses any system operating limit that, if exceeded, could cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.</p> <p>Data confidentiality is being addressed as a certification requirement in the Certification SARs currently</p>	

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<a href="#">under development.</a>	
OLDTF (9?) 6 - #2 1 - #1,5 Sam Jones ERCOT #2	Yes Should consider the definitions and recommendations developed by the Operating Limit Definition Task Force as endorsed by the Operating Committee.
The OLDTF submitted their report to the SDT during this draft standard's public posting and comment period. The SDT considered the recommendations of the OLDTF in the same manner that the SDT considered all recommendations submitted during the public posting period. The SDT is doing their work as part of an open standards development process and will not wait for the work of the OLDTF to be completed. The SDT met with representatives of both the OLDTF and the Facilities Rating Standards DT and agreed to adopt the term Interconnection Reliability Operating Limit (IROL).	
FRCC 6-#1, 4-#2, 1-#2	Yes See comments to the questions. We have already identified some of these, especially with regard to the BA, TOP etc implementing mitigation plans, providing data etc.
All of the individual comments were considered. The duplicate requirements for the TOP were dropped from the revised standard – and the requirement that the BA provide data was also dropped from the revised standard.	
Tony Jankowski We-Energies #4	Yes Need to define when operations transfer to “Abnormal and Emergency” Standard Requirements.
These terms are not required by this standard. This standard is to apply at all times and conditions.	
Toni Timberman BPA #1	Yes Requirement that “TOP Shall Provide” data, as specified
A requirement was added for the TOP to provide data to its RA.	
Todd Lucas (6?) Southern Co #1	Yes The standard should incorporate requirements to provide “real time” data as indicated in earlier comments.
This has been added to this standard.	
Roger Green Southern Co #5	Yes The standard clearly identifies the obligation of generators to provide data to the RA's and TOP's stating in the background that there are various ways generators may be obligated to provide data. A requirement needs to be added addressing the obligation of the RA's and TOP's to likewise provide data to the generators. Additions, deletions, or other changes to the bulk transmission system can impact the accuracy of models used to monitor and assess the adequacy of generating plants, their protective schemes and their interconnections to the grid. An example is any system changes affecting system impedance or changes in transmission relay settings that require coordination with plant relays. One miscoordination between plant relays and transmission relays could result in the tripping of an entire four unit 4000MW plant which is not a contingency normally planned for. Another is any system impedance changes that can affect generator excitation system settings (MEL and URAL) which can result in reactive limits being reached and cascading unit trips.
This standard deals with operating to known limits. The requirement for computing and coordinating the data belongs with the standard for Facility Ratings.	
Richard Schwarz	Yes

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PNSC #2	TOP shall provide data as specified.
This requirement was added to the revised standard.	
Raj Rana AEP #1,3,5,6	<p>Yes</p> <p>There is no requirement that reliability data recipients have to be a signatory to the NERC Data Confidentiality agreement. This needs to be codified somewhere in the new standards.</p> <p>This standard should define the minimum type of data that is to be provided to the RA, similar to Policy 4B and Appendix 4B requirements today.</p> <p>There should be a requirement that the TOP, BA, IA, PA, and Generators provide data on a continuing basis as requested (or as per the defined minimum data requirements suggested in #2 above) and needed by the RA to perform their reliability analysis.</p> <p>There needs to be a definition of operational planning analysis and a requirement that sets the minimum standards of scope and frequency for such analysis.</p> <p>There needs to be a requirement for the minimum frequency of performance of real-time analysis.</p>
<p>Under the revised standard, the only recipient of data is the RA. The Certification SARs currently under development include a requirement that the RA sign a confidentiality agreement.</p> <p>This standard does not include a definition of the minimum type of data to be provided to the RA. Any list of data requirements would be more specific than needed by some RAs, and not specific enough for other RAs.</p> <p>The revised standard does say that data must be provided as specified by the RA. The data specification must include the time frame for providing data. The revised standard more clearly states that data for real time status relative to IROIs is included in the data that must be provided to the RA.</p> <p>The revised standard does include a definition of operational planning analysis and requires that one be conducted at least once each day looking at the day ahead. The definition of an operational planning analysis is: An analysis of the expected system conditions, given the peak load forecast(s), known system constraints such as facility outages, and generator outages and limitations, etc. The analysis should ensure that no interconnection reliability operating limits will be exceeded during expected normal operation. An operational planning analysis is done up to seven days ahead of the expected conditions.</p> <p>The revised standard includes a requirement that real-time analyses be conducted at least once every 30 minutes.</p>	
Peter Burke ATC #1	<p>Yes</p> <p>It is unclear how fines are levied based on \$'s or \$'s/MW. Some examples may be of value that show people the cost of non-compliance. The pricing signals may (or may not) push people to improve their processes to achieve compliance sooner than later.</p>
We will ask the Director-Compliance to put together some examples.	
Mike Miller Southern Co #1	<p>Yes</p> <p>Previous comments</p>
Each comment was considered.	
Lloyd Linke MAPP #2	<p>Yes</p> <p>See comments already made above regarding the scope of the definition of system operating limits.</p>

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<p>The revised standard includes a new term and its associated definition to clarify what subset of system operating limits is addressed in this standard. The term is, 'interconnection reliability operating limits' and its definition is:</p> <p>A system operating limit that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.</p>	
<p>Kim Warren IMO #2</p>	<p>Yes</p> <p>Local Areas</p> <p>Clearly differentiate between electrical areas that can cause instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system and those areas that don't (Local Areas).</p>
<p>The revised standard does not use the term, 'local area'.</p>	
<p>Kathleen Goodman ISO NE #2</p>	<p>Yes</p> <p>In the current format of the existing draft SARs, it appears as though two very fundamental reliability requirements may be lost: (1) a Reserve Requirement; and (2) a CPS2-like requirement (a standard which accounts for ACE variations in addition to frequency control).</p>
<p>The Reliability Standards process does allow anyone to propose a standard requiring given procedures. The current consensus seems to be to provide the flexibility for entities to meet NERC standards with any procedures they, the entities, desire. ISO-NE is not prohibited from employing a reserve requirement or a CPS2-like procedure. The difference is that NERC may not be mandating such a requirement on all entities. Recall that NPCC opposed the NERC definition of Spinning Reserve because NPCC felt that the NERC provisions were too restrictive. The new process allows such differences as a normal course of operating.</p>	
<p>Joseph Buch Madison #4</p>	<p>Yes</p> <p>The standard refers to "data" which is to be requested or provided. However what constitutes this data is vaguely defined or undefined. Certain key items which constitute part of this data need definition either as part of the initial issuance of this standard or as part of the next revision. See comments in question 47.</p>
<p>The standard does not specify what data must be provided to the RA – each RA is required to develop and distribute a data specification that addresses the data it needs. Any 'standard' list of data requirements would be more restrictive than needed for some RAs, and less restrictive than needed by other RAs.</p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 – 2  Ed Stein Ray Morella Joanne Borrell Firstenergy #1,3,6</p>	<p>Yes</p> <p>Throughout the standard the term Reliability Authority is used. This term is out of date and has been replaced by Reliability Coordinator. Is the Reliability Authority in this questionnaire identical to the Reliability Coordinator function? This issue needs clarification. If the Reliability Authority in this questionnaire is different than the Reliability Coordinator function, there needs to be an explanation of the difference.</p> <p>Throughout the standard the term 'system operating limit' is used. This term should be replaced with the term 'Operating Security Limit'. There are many different system operating limits. These standards do not apply to all of them. This standard only applies to Operating Security Limits violations. The term Operating Security Limit should be used and defined to distinguish it from the multitude of system operating limits that are routinely used in everyday operation.</p> <p>Throughout the standard replace the term Reliability Authority with Reliability Coordinator.</p> <p>Throughout the standard replace the term 'system operating limit' with Operating Security Limit. Write a definition of Operating Security Limit.</p>
<p>Terminology is critical. The term Reliability Authority is a term that is used in the Functional Model and is</p>	

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<p>meant to reference that entity that provides the functions assigned to the RA under the Reliability Standards process.</p> <p>Reliability Coordinator is a term for a specific existing organization structure and is referenced in existing Operating Policies. Since all new Reliability Standards are being written for functions in the Functional Model, and since the term, Reliability Coordinator is not used in the Functional Model, the term “Reliability Coordinator” will not be used in NERC’s new Reliability Standards. The RA in the Functional Model is more clearly defined than the RC in existing Operating Policies.</p> <p>The DT met with representatives of both the OLDTF and the Facilities Rating Standards DT and agreed to adopt the term Interconnection Reliability Operating Limit (IROL). The definition of an IROL is: A system operating limit that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. The reliability authority must log each case of exceeding an interconnection reliability operating limit, and must report (to its compliance monitor) each case of exceeding an interconnection reliability operating limit for a time greater than or equal to <math>T_v</math>. Note that <math>T_v</math> may be zero.</p>	
<p>Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 David Kiguel Hydro One #1</p>	<p>Yes</p> <p>We are questioning whether voltage collapse reqts. should be acknowledged.</p> <p>Confidentiality issues could be addressed</p>
<p>The system operating limits addressed in this standard are those limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. If voltage collapse limits would cause uncontrolled separation that impacted the reliability of the bulk transmission system, then it would be an IROL.</p> <p>The Certification Requirements for the RA are expected to address confidentiality agreements.</p>	
<p>Gregory Campoli NY ISO #2</p>	<p>It is difficult to assess what additional requirements should be captured in this standard without a full compliment of standards to review.</p> <p>Our overall concern is that this that a) requirements for real time analysis and operational analysis need to be defined independently, b) requirements for real time data and modeling data need to be defined independently and c) levels compliance should only be determined once the requirement has been well defined and agreed to.</p>
<p>The system operating limits addressed in this standard are those limits that, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system. In the revised standard these are called interconnection reliability operating limits or IROLs.</p> <p>The revised standard does separate requirements for operational planning analysis and real-time assessments. Each has its own frequency requirement – the operational planning analysis must be conducted at least once each day – and the real-time assessment must be conducted at least once every 30 minutes.</p> <p>The new standards process is designed to consider the compliance elements in concert with the requirements – the goal is to ensure that the details of the levels of non-compliance have some reasonable links to the requirement and measures.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>Yes</p> <p>This standard needs to discuss a process or point to a process by which all of the operational planning studies (the 'seasonal base case data') and 'mitigation plans' (our operating procedures) are developed, reviewed, discussed and agreed upon. This is a very big gap in this standard.</p>
<p>This standard deals with operating to limits. The issue of how limits are created is defined by the Facility Ratings standard.</p> <p>This standard only addresses the short-term operational planning analyses that are conducted to look at</p>	

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<p>the day ahead to see if the RA's area can be operated without exceeding any IROLs.</p>	
<p>Charles Yeung Reliant Energy #6</p>	<p>Yes</p> <p>As stated in comments to Question #32, there must be coordination between the reliability mitigation procedures and business procedures for congestion management.</p> <p>Coordination requirements with business standards for congestion management.</p>
<p>The current trend of this standard is that the coordination of procedures is left by default to the Reliability Authority. The entity that serves as the RA must meet the NERC standard to keep the transmission system running. It must use whatever business procedures that it needs to meet the NERC standard – but NERC will not specify which business procedures must be used.</p>	
<p>Bob Burkard NCMPA1 # 3,4,5</p>	<p>Other than the comments above</p>
<p>Alan Boesch NPPD #1</p>	<p>Yes</p> <p>The Standard does not require the RA or TOP to provide evidence that they have the authority to take necessary actions. This requirement is currently included in the Certification SARs.</p> <p>This Standard should reference the Certification Standard and any other applicable Standards.</p>
<p>The authorities issue should be handled by the Certification Standards. The references will be updated.</p>	

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**46. Which form of the Standard do you prefer?**

**Summary Consideration:**

There were many commenters that liked each version. For the revised standard, there are fewer requirements, and similar requirements have been grouped together.

Ed Stein Firstenergy Sol #6	A It will be easier to modify the standards if each requirement is in a stand alone item.
Ray Morella FirstEnergy #1	A It will be easier to modify the standards if each requirement is a stand alone item.
Joanne Borrell FirstEnergy Sol #3	A It will be easier to modify the standards if each requirement is a stand alone item.
Alan Boesch NPPD #1	A Version A is very clear easy to follow. Version B is harder to follow and relate the Measurement, Outcomes,etc for the particular requirement. This is reflected in this response form because it requests that Version A be used to provide the response. Please note that version B has two 201 (f) sections and no 202 (f) section.
ECAR Ops Panel #1 – 8 #5 – 1 #2 - 2	A It will be easier to modify the standards if each requirement is a stand alone item There was not complete agreement on this item. Eight companies preferred Version A - Each Requirement Separate. Two companies preferred Version B - Related Requirements Combined.
Alan Johnson Mirant #6	A Version A makes it easier to cite specific measures and/or requirements. However, by simply adding some numbered sub-bullets, the same could be said for Version B.
Alan Boesch NPPD #1	A Version A is very clear and easy to understand the Requirement, Measurement, Outcomes, etc for the particular requirement.
Doug Hils Cinergy #1 John Blazekovich Exelon #1,3,5,6 James Stanton Calpine #5 Tony Jankowski We-Energies #4 Tom Petrich (5) PG&E #1 Stuart Goza TVA #1 Roger Green Southern Co #5 Mike Miller Southern Co #1 Kathleen Goodman ISO NE #2	A
Darrel Richardson Illinois Power #1, 3	We really do not have a preference. We can operate with either form.
Compliance Sub Compliance Mgrs	The structure where the requirements are posed on TOP that are mirrors of RA functions are not appropriate because the RA is responsible. Should not be parallel authorities. Delegation will be dealt with another forum. Version B is not required. (This is not consistent among the commenters. Some prefer version

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	B.
OLDTF (9?) 6 - #2 1 - #1,5	Neither version provides a completely orderly and logical flow. That being said, if there is a requirement to pick one over the other, Version B is much more preferable. (follows a more logical flow of the two). Requirements are not buried like requirements 10 / 11 / 12 in version "A".
FRCC 6-#1, 4-#2, 1-#2	B It is much easier to understand when related items are together. Version B is more clearly written and easier to follow.
Peter Burke ATC #1	B Version B is shorter
Lloyd Linke MAPP #2	B I think version B is written more clearly than version A and is easier to follow. I think that the entities that are responsible for complying to this standard will find it easier to determine what is required of them for compliance. I also think that the levels of Non-Compliance are spelled out more clearly, there is less room for interpretation.
cJoseph Buch Madison #4	B Version B collects all the requirements for each entity in one location. Version A is could result in an entity accidentally overlooking a requirement since they have several sections in which to look.
Joe Minkstein PG&E #5	B Version A is streamline and forthright, but version B lays out the requirements in such fashion that an auditee should know what the documentation requirements are and have agreement with an auditor when a finding of non-compliance is reported
Kim Warren IMO #2	B I prefer that the Standard have all RA requirements/information together. Same for TOP's, TOW's, BA's, IA's and Generator Owners. In other words a different section of the standard for each of the different authorities/owners where all their requirements are stated in one place.
Toni Timberman BPA #1	B Liked Version B because it lays out separately the requirements for each entity, but the compliance information should be associated with each requirement rather than in the big list at the bottom. It is difficult to sort out which compliance refers to which requirement.
Todd Lucas (6?) Southern Co #1	B An adequate review of any of the standards requires a significant effort. A 30 day comment period does not allow for appropriate review and well thought out feedback.
Susan Morris SERC #2 Thomas Pruitt Duke #1 Robert Reed TS (See List)	B Version B is written more clearly than Version A and is easier to follow. Entities that are responsible for complying with this standard will find it easier to determine what is required of them for compliance. In addition, the levels of non-compliance are spelled out more clearly; there is less room for interpretation.
Raj Rana AEP #1,3,5,6	B We prefer neither of the versions. Neither version allows the reader to easily know what each Authority or entity is responsible for. Version B comes the

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	closest.
William Smith Allegheny Pwr #1 Vern Colbert Dominion #1 Sam Jones ERCOT #2 Roman Carter So Co Gen 3,5,6 (6 members) Richard Schwarz PNSC #2 Richard Kafka Pepco #1 Ken Skroback AL Elec Coop #4 Karl Kohlrus CWL&P #5 Guy Zito (See List) NPCC #2 – 2 NPCC #1 – 5 Gregory Campoli NY ISO #2 Gerald Rheault Manitoba #1,3,5,6 Francis Halpin BPA Bus Line #5,6 Dilip Mahendra SMUD #1 David Kiguel Hydro One #1 Albert M. DiCaprio MAAC #2	B
Ed Riley CA ISO #2	The CAISO would like to suggest a third option for the organization of the Standard, dividing the requirements up by function, such as Reliability Authority, Transmission Operator, etc., rather than by task.

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### 47. If you have comments on the format of the standard, please share them with us.

FRCC 6-#1, 4-#2, 1-#2	All assumptions and definitions should be included in the standard.
The standard format does not include assumptions or definitions. The definitions that receive industry support (through the public comment period) will be added to a new glossary used for all reliability standards.	
OLDTF (9?) 6 - #2 1 - #1,5	Building upon comments above, no entities should have to search through a number of Compliance templates to find all of the requirements applicable to them. Version B still has this in that 207 remains buried after TOP requirements.
Eventually the standards will be entered into a relational database that is accessible to the public. Any entity will be able to request a report on all of the requirements applicable to a Function. Several different sequences have been proposed – sequence the requirements so that they follow a logical sequence, sequence the requirements so that all of the requirements for one function are addressed before requirements for other functions – sequence the requirements so the most critical requirement is first, etc. Each of these suggestions has merits.	
William Smith Allegheny Pwr #1	Add descriptive titles to the subsections for ease of reading.
This revision has been adopted and is reflected in the revised standard.	
Guy Zito (See List) NPCC #2 – 2 NPCC #1 - 5	Subtitles should be added to sectionalize the standard and a table of contents added.
This revision has been adopted and is reflected in the revised standard.	
Toni Timberman BPA #1	highlighting the requirements better and using tabs and font sizes to delineate between the different sections could improve format.
The revised standard does use more highlighting, but the use of different font sizes has not been adopted.	
Thomas Pruitt Duke #1	<ol style="list-style-type: none"> <li>1) Subtitles should be added to sectionalize the standard and a table of contents added.</li> <li>2) Since all references to functions, such as, RA, BA, PA, TOP, etc. are listed in standards documents as "entities" for convenience, all NERC standards documents should contain a clarification statement explaining that the functions are not organizations and that all references to the functions should be interpreted as "entities responsible for --- function".</li> <li>3) All assumptions should be listed in the standards document.</li> <li>4) Footnotes of definitions should be repeated for each requirement write-up.</li> <li>5) There should always be at least two levels of non-compliance defined.</li> </ol>

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<p>Subtitles were added.</p> <p>During the transition period when we are still developing new standards and the existing operating policies haven't been retired, we will add a paragraph to the beginning of each standard to clarify that the functions are not the same as entities.</p> <p>The standard format doesn't include an assumptions section.</p> <p>Definitions are being presented at the beginning of each standard and won't be included in footnotes.</p> <p>There is no requirement to have more than one level of non-compliance. These standards are not written as prescriptively as the existing Operating Policies and Planning Standards. Many of the new standards address areas of performance that are critical to reliability, and giving partial credit to an entity that fails to meet the performance objective may be detrimental to reliability. We encourage you to read the background information provided by the SDT with the comment form for the revised standard. If you still feel that additional levels of non-compliance are needed, please note this on the comment form.</p>	
<p>Roger Green Southern Co #5</p>	<p>You are encouraged to make them as simple as possible. Organization and means to find content needs to be very clear. Realizing that these are very complex, perhaps they need to be followed up with summaries by function or subject, such as Compliance Requirements, Planning Requirements, Operating Requirements, etc.</p>
<p>Once the standards are developed, they will be available to the industry in a user-friendly relational database. You will be able to ask for a report that lists all the requirements for an RA, all the measures for a BA, etc. Several different types of reports should be available to produce the type of summaries you've suggested.</p>	
<p>Compliance Mgrs Compliance Sub Robert Reed TS (See List)  Susan Morris SERC #2</p>	<ol style="list-style-type: none"> <li>1) Subtitles should be added to sectionalize the standard and a table of contents added.</li> <li>2) Jim Byrd presented Functional model issues to the NERC PC/OC/MIC on March 19, 2003 in Birmingham and stated that one of the major issues with the Functional model is that the functions are perceived to be organizations. Jim stated that efforts will be made to clarify that the functions are not organizations. Since all references to functions, such as, RA, BA, PA, TOP, etc. are listed in standards documents as "entities" for convenience; for example, sentences begin: "The RA shall..." instead of "Entities responsible for RA functions shall...", then all NERC standards documents should contain a clarification statement explaining that the functions are not organizations and that all references to the functions should be interpreted as "entities responsible for --- function".</li> <li>3) All assumptions should be listed in the standards document.</li> <li>4) Footnotes of definitions should be repeated for each requirement write-up.</li> <li>5) There should always be at least two levels of non-compliance defined.</li> </ol>
<p>Subtitles were added.</p> <p>During the transition period when we are still developing new standards and the existing operating policies haven't been retired, we will add a paragraph to the beginning of each standard to clarify that the functions are not the same as entities.</p> <p>The standard format doesn't include an assumptions section.</p> <p>Definitions are being presented at the beginning of each standard and won't be included in footnotes.</p> <p>There is no requirement to have more than one level of non-compliance. These standards are not written as prescriptively as the existing Operating Policies and Planning Standards. Many of the new standards address areas of performance that are critical to reliability, and giving partial credit to an entity that fails to meet the performance objective may be detrimental to reliability. We encourage you to read the background information provided by the SDT with the comment form for the revised standard. If you still feel that additional levels of non-compliance are needed, please note this on the comment form.</p>	

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Raj Rana AEP #1,3,5,6	As one reviewer stated, "this draft standard is worse then reading the Federal Register."
Peter Burke ATC #1	<p>While it seems repetitive there is no other way to better mirror the NERC Functional Model.</p> <p>Although version B is clearer than version A, version B might be better if altered so that the requirements for each type of entity are grouped. That is, all the requirements for the RA should be in one section so that the RA need not search the entire document for any remaining requirements that apply to them. Obviously, this would apply to all types of entities, IA, BA, Generator, TOW and TOP so they one have to look in one place.</p>
<p>Several different sequences have been proposed – sequence the requirements so that they follow a logical sequence, sequence the requirements so that all of the requirements for one function are addressed before requirements for other functions – sequence the requirements so the most critical requirement is first, etc. Each of these suggestions has merits.</p> <p>Once the standards are developed, they will be available to the industry in a user-friendly relational database. You will be able to ask for a report that lists all the requirements for an RA, all the measures for a BA, etc. Several different types of reports should be available to make it easy for users to find the requirements and measures applicable to each function.</p>	
Lloyd Linke MAPP #2	<p>The Outcome section should have 100% Compliance Requirement added to it. 100% Compliance is identified in the Comment document but not in the standard itself. I think this should be added throughout the document.</p> <p>Section 204(e) is incorrectly numbered as 203(e) (Version B)</p> <p>Section 204 (e) and (f) are mislabeled 205(e) and (f) (Version A)</p> <p>Section 202(f) is mislabeled as 201(f) (Version B)</p> <p>The Compliance Monitoring sections are not evaluated above - this comment applies to them: In the Compliance Monitoring Process section it states that the entity responsible for complying shall have the following data available upon request of the Compliance Monitor; it does not state the time period within which the entity must respond. I think that a specific time requirement in which the information shall be provided needs be added. Adding the specific time to provide the information makes the requirement more measurable. This is true for Sections 201 - 206.</p>
<p>The Outcomes section was deleted from all standards because it was redundant with the requirements and measures.</p> <p>The typos have been corrected in the revised standard.</p> <p>Under the Compliance Monitoring Section – the current practice is for the compliance monitor to review each entity once every three years during a scheduled audit. The expectation was that the data listed needs to be shown to the compliance monitor during that scheduled audit. If performance were such that the compliance monitor felt a 'triggered investigation' were warranted, the compliance monitor could also ask to see the documentation as part of that investigation.</p>	
Kathleen Goodman ISO NE #2	<p>Additional comments: ISO New England, nor NPCC members, subscribe to the use of monetary penalties to enforce compliance and we (ISO New England) in no way are a party to any contracts which allows NERC to do so.</p>
<p>The sanctions applied for levels of non-compliance are established by the Compliance Enforcement Program and are outside the scope of the SDT.</p>	
Karl Kohlrus CWL&P #5	<p>The organization of the document makes it very difficult to read. Much of the data is similar and repetitive. Maybe the document should be organized differently, either separate standards applicable to RA only, the IA only, the BA only, and the TOP only. Then each entity would have to read and comply only with the standard that is applicable to him. An alternative method would be to state in each section that this is applicable to RA, IA, BA or TOP.</p>

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Once the standards are developed, they will be available to the industry in a user-friendly relational database. You will be able to ask for a report that lists all the requirements for an RA, all the measures for a BA, etc. Several different types of reports should be available to produce the type of summaries you've suggested.

Several different sequences have been proposed – sequence the requirements so that they follow a logical sequence, sequence the requirements so that all of the requirements for one function are addressed before requirements for other functions – sequence the requirements so the most critical requirement is first, etc. Each of these suggestions has merits.

Joseph Buch  
Madison #4

Other standards organizations include a table of contents as part of the standard. This standard should also include a table of contents.

In section 201 (a) Requirement, each item should be identified by a number and this number should be correlated with the other subsections of 201. For example, the first requirement (a) covers monitoring and under (b) Measures the monitoring requirements should all be grouped together and Similarly, the second item under requirements (a) data collection and specification should be listed as item two under (b) Measures. [In this draft it is number three] This format should be continued for subsections (c), (d), (e), (f) and (g). Note that under (d) Regional Differences the same comment could apply to all the requirements.

The fourth item in Section 201 (a) covers notification of the Compliance Monitor when data is not provided. In the long form of this standard, this item is included as part of the data specification and collection. This item should be combined with the second item in this section. Similarly, the third item should be combined with the second item.

Version B combines most of the RA requirements in Section 201, however the requirements for a mitigation plan and for documentation of instances of exceeding limits are still in separate sections 203 and 205. For consistency in combining all RA requirements together sections 203 and 205 should be combined into section 201. This same comment also applies to TOPs.

Sections 208 to 211 cover the responsibilities of Balancing Authorities, Interchange Authorities, Transmission Owners and Generator Owners to supply data covering new facilities or modifications to existing facilities. Sections 207 covers the same requirements for the Reliability Authority to provide data to associated (adjacent) Reliability Authorities and/or Transmission Operators. Although it is beneficial to keep these sections on data together, it is not consistent with the goal of keeping all the requirements for each entity together in one section.

This standard requires generator owners to supply data as requested to the requesting RA or TOP no less than 7 days prior to energization of new facilities or changes to existing facilities with a level 4 non-compliance if this data is not provided. This is not acceptable. The standard does not spell out the data required, it is left up to the RA or TOP to determine. Some data such as winter ratings is not crucial to system operation and associated level 4 non-compliance along with the sanctions for this level of non-compliance is simply not appropriate. What may be acceptable is to classify non-compliance with this standard as written as level 1. A future revision to this standard including an itemized listing of the specified data could then be developed along with appropriate levels of non-compliance. For example, generator data for dynamic stability provided between 5 and 7 days before energization could be given a level 1 non-compliance.

I also noted several typo's in the section numbers.

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<p>Subtitles were added to the individual requirements, and the list of subtitles was added to the front of the revised standard as a type of table of contents.</p> <p>Suggestions for changing the numbering sequence will be forwarded to NERC’s VP and General Counsel for consideration. He has the final say on the format of these new standards.</p> <p>The level of detail requested for the requirement that the Generator provide Data has not been supported in the revised standard. The revised standard states more clearly that the data that must be provided to the RA is needed to monitor and assess the system relative to the subset of system operating limits called Interconnection Reliability Operating Limits or IROLs. Each RA must identify what data it needs and must provide a data specification to generators. Since each RA may have different data needs, this standard will not include a specific list of data.</p> <p>The typos should not be present in the revised standard.</p>	
<p>ECAR Ops Panel #1 – 8 #5 – 1 #2 - 2</p>	<p>(1) The application of the Sanctions table is difficult to understand. A few examples on how to apply sanctions would be helpful. (2) Add descriptive titles to the subsections.</p>
<p>We will ask the Director-Compliance to develop an explanation of the application of the Sanctions Table that is publicly posted.</p> <p>Each requirement has been given a ‘subtitle’ in the revised standard.</p>	
<p>Francis Halpin BPA Bus Line #5,6</p>	<p>It seems to be too long! The drafting team should look to consolidate where ever possible. Requirements 5, 6, 7, 8, &amp; 9 seem to be prime candidates for incorporation into a single requirement which is applicable to the different entities.</p>
<p>As you suggested, all of the requirements related to providing data were consolidated.</p>	
<p>Ed Stein Firstenergy Sol #6</p>	<p>I believe that NERC has taken the old hardware/software problem and increased it exponentially. There is a computer problem; hardware blames software and software blames hardware. It appears that NERC has set up the condition where there will be finger pointing between the IA,RA, BA,and TO. Because of this potential it is very important to get this correct before it goes to drafting committee.</p> <p>Another concern that I have is that the whole RTO/SAR process has taken away the common sense factor. As an example: The temperature is 30 degrees below zero and the wind speed is 20 miles per hour. The associated high loads has caused the transmission lines into the area to become overloaded based on an operating limit developed at zero degrees and a wind speed of 10 miles per hour. The only solution is to reduced load in the area through rotating the opening of distribution breakers throughout the area. The problem is that once a distribution breaker is opened there is a good chance that it will not close when called upon due to the cold weather. The RA or TO or whatever does not call for load reductions due to exceeding the operating limit, serves the load with no problem because the true limits are higher than the reported limits or a small amount of loss of life is taken out of the lines. My fear is that because a limit has been violated the TO or RA will be placed on the NERC rack and tortured. Once that happens the next time you will see load shedding causing even more problems.</p> <p>I do support ECAR's responses and much of PJM's responses.</p> <p>After reviewing all of this TO, IA, BA, and RA I am heading to AA because I really want a drink.</p>

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**48. Please list any other comments you may have in the space below.**

<p>Toni Timberman BPA #1</p>	<p>there were content differences in addition to format differences between Version A and Version B. These differences should be resolved. I will use Version B as the reference:</p> <ol style="list-style-type: none"> <li>1. Page 1 of 19, footnote 1 – data can be analog or digital</li> <li>2. Page 2 of 19, 201(b) 6. does not appear in Version A. “Reliability Analysis Programs analyze all system operating limits.....</li> <li>3. Page 3 of 19, 201(e), third mark – the language “and identifies any problems....” Does not appear in Version A</li> <li>4. Page 3 of 19, 201(e), 6th mark does not appear in Version A. “Reliability analysis programs analyze all system operating limits</li> <li>5. Page 3 of 19, 201(f) 3, second mark is not in Version A “No analysis tool was available for use...”</li> <li>6. Page 3 of 19, 201(f) 3, fourth mark is not in version A “there was a system operating limit violation, but...”</li> <li>7. Page 5 of 19, 202(b) #6, is not in Version A</li> <li>8. footnote at bottom of page 5 should include operator assessment as part of the definition of Reliability Analyses</li> <li>9. Page 7 of 19, 201(f)3, second mark is not in version A “no analysis tool was available”</li> <li>10. Page 8 of 19, 203(a) : words “approved, documented” were not in Version A</li> <li>11. Page 8 of 19, 203(b) language is different than in Version A</li> <li>12. Page 9 of 19, 204(a) word “approved ” was not in Version A</li> <li>13. Page 9 of 19, 204(b) shoul reference TOP instead of RA</li> <li>14. Page 10 of 19, 205(a) Requirement is written much differently than in Version A</li> <li>15. Page 10 of 19, 205(b) Version A uses better language for the Measures</li> <li>16. page 11 of 19, 205(f)4, second mark – does not exist in Version A</li> </ol> <p>General comment: please get rid of the “marks” and make every item clearly identifiable with a number or letter reference.</p> <p>That’s all for this round of comments....</p>
<p>Since we asked everyone to comment on the more detailed version, we’ve made adjustments to the standard from that version. The revised standard has just one version, and this should eliminate the inconsistencies you noted in the original draft.</p> <p>In the revised standard, each individual item has been independently numbered except in cases where a list of items must be considered together as a single item.</p>	
<p>Raj Rana AEP #1,3,5,6</p>	<p>Obviously, we believe this draft is not yet ready for going to ballot. Of course, that wasn't your intent at this point. However, we question the wisdom of this standard ever going to ballot before the Facilities Rating Standard is also developed and ready to go to ballot. We would suggest that this standard should be developed the Facility Rating Standard. Otherwise assumptions regarding limits and violations made by this standard may turn out to be vastly different then the intent of the Facility Ratings Standard.</p> <p>We appreciate the hard work of the standards drafting team and look forward to the next draft.</p>

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<p>Your recommendations were very much appreciated! The Facility Ratings SAR was approved, so now we do have a definition of system operating limit to use as a starting point for this standard. The Facility Ratings Standard will establish how system operating limits must be set. The Facility Ratings SAR did not include a definition of the subset of system operating limits addressed in this standard, so this revised standard includes a new term (interconnection reliability operating limit) and its definition. This standard addresses operating within IROLs so that instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the bulk transmission system.</p>	
<p>Doug Hils Cinergy #1</p>	<p>202 (a) Requirement section. Under "The TOP shall:" the fifth bullet needs to be removed or reworded. If the bullet is not removed, a suggested wording would be: Operate within equipment ratings or system operating limits determined by the Reliability Authorities' short-term reliability analysis. (The wording change needs to reflect the fact that the TOP may not have the information that would be needed from other utilities to perform an effective bulk transmission analysis. The Reliability Authority should have the information to do such an analysis and provide the TOP with any limits.)</p> <p>Wording in 202 (b) Measures, 202 (c) Outcomes, and 202 (e) Compliance Monitoring Process and 202 (f) Levels of Non-compliance may need minor changes to reflect the change in the 202 (a) Requirement section.</p>
<p>Based on the comments submitted and a review of the Functional Model, the referenced requirement was dropped from this standard.</p>	
<p>Dilip Mahendra SMUD #1</p>	<p>Sanctions should be applied only if a regulatory body governing the entity in non-compliance endorses the sanctions table.</p>
<p>The sanctions table is expected to be endorsed by the NERC Board of Trustees and to be an integral part of the Compliance Enforcement Program. NERC is still hopeful that federal legislation will be passed to give NERC or its successor organization the right to apply penalties for non-compliance with standards.</p>	
<p>David Kiguel Hydro One #1</p>	<p>Subtitles should be added to sectionalize the standard and a table of contents added.</p>
<p>This suggestion was adopted and is reflected in the revised standard.</p>	

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<p>Compliance Managers (14?)</p>	<p><u>Simplify the Standard</u></p> <p>There is a fairly consistent theme across the comments that the draft OWL Standard should be simplified and clarified. The standard is focusing too much on data reporting, documentation, tools, etc. and is missing the key point to get operators to take appropriate actions in the right time frame to address OSL violations.</p> <p>The OWL standard should focus on the monitoring of transmission system data and status and Operating Security Limits, to prevent Operating Security Limit violations, mitigate violations within specific time frames when they occur, and report such violations to NERC.</p> <p><u>Operating Security Limits</u></p> <p>There are several comments that propose that the definition of an Operating System Limit (OSL) is too narrow. A “System Operating Limit is a limit that has been “identified to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.”</p> <p>“As conceived, this standard does not result in any entity assuring that bulk power system is operating within limits. It only results in operating within those limits for which violations result in instability/cascading outage risk. Any defined operating limit, which has been identified as potentially threatening bulk reliability and thereby require monitoring and adherence, should be covered by this standard.”</p> <p><u>Proposal</u></p> <p>The Transmission System elements that have “established limits” to comply with the Disturbance Performance Table should be included in the OSL monitoring list.</p> <p><u>Violations</u></p> <p>The sanction measures in the draft standard are too focused on reporting and documentation, and rather should focus on OSL violations (violation meaning the limit has been exceeded by both a magnitude and time duration specification).</p> <p>The levels of noncompliance as stated in the draft standard will be very difficult to measure, and should be replaced with measurable requirements that are practical to administer and that achieve desired results.</p> <p><u>Reporting</u></p> <p>There is a suggestion that there needs to be some definition of what should be “reportable” and that perhaps all incidents of OSL violations may not have to be reported.</p>
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This standard must contain all of the elements listed in its associated SAR. For reference the following is from the approved SAR:

*Requirements shall address:*

- *Real time monitoring of system parameters against operating limits*
  - ***Monitor parameters that indicate the current state of the transmission system***
  - ***Monitor parameters that indicate the current state of tie lines to other systems and of the overall interconnected transmission system***
- *Performing short-term and real-time transmission reliability analyses relative to the identified operating limits*
  - ***Collect data needed for performing real time reliability analyses***
  - ***Conduct an operating assessment to identify limiting facilities***
- *Performing corrective actions to mitigate exceeding operating limits*
  - ***Have a documented mitigation plan***
  - ***Implement mitigation plan where necessary***
- *Keeping records and filing reports*
  - ***Document instances of exceeding identified operating limits***
  - *Log violations and maintain records for the retention period*
  - *Report information to NERC based on specified criteria (e.g. magnitude, duration, type of violation, instances of exceeding limits<sup>1</sup>)*

The scope of this standard must conform to the purpose of this standard, which was also set with its associated SAR. For reference, the following is from the approved SAR:

*The purpose of this standard is to prevent instability, uncontrolled separation or cascading outages that adversely impact the reliability of the bulk transmission system.*

The first draft of this SAR tried to indicate that this standard does not address all system operating limits, just the subset of system operating limits that, if exceeded, could cause instability, uncontrolled . . . . When the first draft was posted, the Facility Ratings SAR wasn't approved, and this SDT didn't know if the Facility Ratings SAR would include a term for the subset of system operating limits addressed by this standard. Since then, the Facility Ratings SAR has been approved, and there was no new definition for the subset of system operating limits addressed in this standard. This revised standard includes a new term, 'interconnection reliability operating limit' or IROL .

Several commenters indicated as you did that the scope of this standard should be expanded to address all system operating limits. The SDT is not authorized to expand the scope of the standard so it addresses topics that are outside the scope of the associated SAR. The SDT has notified the Director-Standards that there may be a need for another industry standard that addresses the subset of system operating limits that are not addressed in this standard.

There were many suggestions for modifying the levels of non-compliance so they focus more on real time performance and less on after the fact documents and these changes were implemented and are reflected in the revised standard.

The revised standard clarifies which instances of exceeding an IROL must be documented and which must be both documented and reported.

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