

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Please use this form to submit comments on the proposed SAR to revise system operating limit methodology in FAC-011-1 to require consideration of credible multiple element contingencies in the operating horizon (Project 2008-05). Comments must be submitted by **February 22, 2008**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "SOLs-Multiple Contingency" in the subject line. If you have questions please contact David Taylor at david.taylor@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Thad K. Ness
Organization:	AEP
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E-mail:	tkness@aep.com
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input checked="" type="checkbox"/> ERCOT	<input checked="" type="checkbox"/> 1 — Transmission Owners
<input type="checkbox"/> FRCC	<input type="checkbox"/> 2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input checked="" type="checkbox"/> 3 — Load-serving Entities
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<input checked="" type="checkbox"/> RFC	<input checked="" type="checkbox"/> 5 — Electric Generators
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<input checked="" type="checkbox"/> SPP	<input type="checkbox"/> 7 — Large Electricity End Users
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<input type="checkbox"/> NA – Not Applicable	<input type="checkbox"/> 9 — Federal, State, Provincial Regulatory or other Government Entities
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Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The SAR is based on a false premise that there is a one-to-one correspondence between the Planning Assumptions and Real-Time Conditions. In Planning, the starting point is all facilities in service. In real-time operations the starting point, is exactly what conditions are present, and rarely – if ever – is that real time conditions is with "all facilities in service".

In addition, multiple contingencies are already addressed in FAC-011, and the requirements of this Standard must be read as a whole. R2.1 addresses the pre-contingency state (which is most probably already with existing outages), R2.2 and 2.3 deal with performance following the next single contingency, R2.4 addresses acceptable actions to prepare for the next contingency. Therefore this set of requirements addresses the current real time state plus two contingencies. In addition, Requirement 3.3 stability limits resulting from multiple contingencies from the real-time state. FAC-011 currently is adequate to address multiple contingencies beyond the real-time state of the system.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: No, this SAR is based on a false premise, that the given state of a planned system (all facilities in service) is analogous to the existing state of the system in real time (there could be and likely is multiple facilities out of service). This issue was extensively debated within the industry during the development of the latest revision of FAC 011, and consensus was reached as stated in approved version of this standard

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Unknown, since the logic supporting this SAR is based on a false premise, and its logic is circular. But, one would need to explain how an 'operating standard' relates to the planning functions.

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4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: The sponsor of this SAR supports the need for this revision by a summary of study statistics presented to the industry nearly 2 years ago of PPL outage conditions. However, the study did not examine the interrelationship between concurrent outages, or if so, were these outages during peak or off-peak conditions. Just because there are concurrent outages, it is incorrect to conclude that the impact of multiple events must be additive.

The SAR is internally inconsistent and circular in logic. The SAR states, "Following a single or double contingency, the system will no longer be required to be operated to Category C contingencies." Since real-time conditions are virtually in a contingency state (i.e. at least one facility is out of service somewhere) the system would only be required to operate to Category B – which is only one facility out of service.

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Jason Shaver	
Organization:	American Transmission Co.	
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NERC Region (check all Regions in which your company operates)		Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 — Transmission Owners
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1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: It is our position that FAC-011-1 adequately covers the inclusion of multiple contingencies.

See: FAC-011-1 Requirement 3, 3.3 and FAC-014-1 Requirement 6.

Requirement 3:

"The Reliability Coordinator's methodology for determining SOLs, shall include, as a minimum, a description of the following, along with any reliability margins applied for each:"

Requirement 3.3

"A process for determining which of the stability limits associated with the list of multiple contingencies (provided by the Planning Authority in accordance with FAC-014 Requirement 6) are applicable for use in the operating horizon given the actual or expected system conditions."

FAC-014 Requirement 6:

"The Planning Authority shall identify the subset of multiple contingencies (if any), from the Reliability Standard TPL-003 which result in stability limits."

Based on our position ATC feels that this effort is unnecessary and should be abandoned.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Please see our comments to question 1.

ATC believes that this effort should be abandoned.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

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No

Comments: Please see our comments above.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments:

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Mike Viles (on behalf of Subject Matter Experts at BPA)	
Organization:	Bonneville Power Administration	
Telephone:	360-418-2322	
E-mail:	mrviles@bpa.gov	
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1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The transmission system is planned with all equipment in service and heavy load conditions. The transmission system is often operated with equipment out of service and less than peak load conditions. Using the same outage criteria for the planning horizon and operating horizon will significantly reduce transfer capability with little reduction in reliability risk.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: This proposed change will significantly reduce the transfer capability during planned and unplanned outages that occur during the operating horizon without significantly increasing reliability. This will result in maintenance outages being moved to periods that typically have less desirable weather conditions which can reduce maintenance efficiency.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The probability of "credible single contingency" multiple events are much lower than single transmission contingency events. The major system disturbances in August 1996 and August 2003 were both results of sequential single contingencies not multiple element forced outages. We cannot eliminate all risks and we are willing to live with this risk.

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Comments: Special protection schemes are likely to be used more to regain lost transfer capacity. The complexity of the SPS could create other problems.

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Phil Park	
Organization:	British Columbia Transmission Corporation	
Telephone:	604 699 7340	
E-mail:	phil.park@bctc.com	
NERC Region (check all Regions in which your company operates)		Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 — Transmission Owners
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1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The proposed change in FAC-011 is already addressed for the Western Interconnection in Section E. Regional Differences.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Although not stated in the description of the SAR, the SAR form appears to be proposing to add Planning Coordinator, Transmission Planner, and Transmission Operator as applicable entities. BCTC agrees that FAC-011 should be applicable to Planning Coordinators. However, we disagree with applicability to Transmission Planners and Transmission Operators. This can potentially result in multiple conflicting SOL Methodologies. The need for TPs and TOPs to have an SOL Methodology for the Operating Horizon is not supported by the Functional Model.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: The SDT will also need to consider revisions to FAC-014-1, Establish and Communicate SOLs. FAC-014 will need to be clear on which SOL Methodology for the Operating Horizon, the Reliability Coordinator's or the Planning Coordinator's, shall be used to determine operating SOLs should there be a discrepancy. If necessary, we would support making FAC-011 applicable to only Planning Authorities. FAC-014 will also need to clearly define for each requirement which SOL Methodology is reference. For example, R4 should indicate the Planning Coordinator's SOL Methodology for the Planning Horizon.

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Alan Gale	
Organization:	City of Tallahassee	
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E-mail:	alan.gale@talgov.com	
NERC Region (check all Regions in which your company operates)		Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 — Transmission Owners
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Yes

No

Comments: The use of the statistical average of 18 "multiple element" events per year does not adequately address a need. What is the ratio of multiples element events to single element events? Is it a very small percentage? Or is it a large percentage? What caused the multiple element events? Did they result in cascading outages, separation, or blackout? The use of a single statistical data point is misleading to the industry. This effort was tried once before (I believe by the same folks) and it was not approved. Why are we doing this again? What has changed between then and now?

If the NYSRC desires to operate to a more stringent operating standard, they can do that and not force the rest of the interconnections to limit themselves as described below.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: IF THIS CONTINUES:

EOP-008-1, although in development, should be listed as a Related Standard. The Applicability of EOP-008-1 will include TOP's with facilities with defined IROL's. If FAC-011-1 goes as presented, it will be most, if not all, of the registered TOP's.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: IF THIS CONTINUES:

Operating to a tighter limit will not "fix" the BES. The ultimate remedy to comply with the presented standard is to put wire in the air, and a lot of it, or generation on the ground. This burden will be borne by the Transmission Owners and Generator Owners. They should be listed in the "The Standard will Apply to the Following Functions" section. Since both these items require long lead times to complete, the Resource Planer should be included. Since this will also significantly affect the amount of power transmitted over the BES, the Balancing Authority should also be addressed. We should also include the Market Operator since this will have such a large impact on ATC's and parrallel path flows.

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Comments: The implementation plan must be long to allow construction of the necessary facilities to remediate the problems that are identified via the TPL standards.

Operating to Category C events will reduce ATC's significantly and have a SIGNIFICANT NEGATIVE impact on the markets ability to move power over the BES.

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Jack Kerr	
Organization:	Dominion Virginia Power	
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Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: While we agree that simultaneous failure of some specific multiple elements that are physically or electrically related may be likely and plausible (credible) and should be considered as single contingencies in determining SOLs, it appears the SAR is also proposing that unlikely and unrelated double contingencies be considered (and operated to) as well. For example, the Industry Need statement in the SAR says that "the system must be postured for meeting Category C contingencies". This implies a requirement for pre-contingency pre-emptive control action to mitigate the potential consequences of non-simultaneous failures of unrelated elements such as a Category B contingency followed by manual system adjustments followed by another Category B contingency (this sequence is one type of Category C contingency). To operate this way would be too conservative and would restrict system operations unnecessarily thereby causing transmission capacity to become severely under-utilized thereby creating an impediment to energy markets. This will increase the cost to the end users. The SAR fails to address the market interface impacts of implementing the standard action.

The SAR does not provide any assessment of the reliability impacts of implementing the standard action. In making the case for the need for the standard action, the SAR refers to a presentation made to the NERC Planning Committee in 2006. This presentation summarizes a high-level analysis of historical multiple facility trips (MFT) in PJM over an eight year period but does not go deep enough to identify the root causes of why the failure rates are what they are. Further analysis of MFT events over time and in other systems may lead to a better insight into the reasons and the causes of such events. For example, breaker failure rates might correlate to a particular type of breaker from a specific manufacturer; therefore, it would not be prudent to assume all circuit breakers have the same failure rate and must all be operated to as Category C contingencies in the operating horizon. Further analysis could identify where corrective actions can be taken to solve the problems and reduce the failure rate significantly and hence reduce the risk. Having to consider the huge population of facilities such as buses and breakers in performing contingency analyses in the operating horizon shifts the focus from the few unreliable facilities and spreads it out over 100% of all devices (both reliable and unreliable) - not a very efficient way to reduce risk. There needs to be more analysis of historical MFTs and an assessment of their impact on reliability so that guidelines for identifying credible multiple element contingencies can be developed prior to requiring that they be considered in determining SOLs in the operating horizon.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

No

Comments: The Detailed Description section of the SAR does not provide sufficient details or clarity in order to adequately describe the proposed scope. For example, it states that, "Credible multiple element contingencies are those identified through study which can lead to IROL violations." This implies that credibility is a function of potential adverse impacts. This is not correct, and does not comport with the discussion of credible multiple element contingencies in the Reliability Concepts document approved by the NERC OC and PC. Perhaps the author meant that only multiple element contingencies identified through study that could lead to IROL violations need to be operated to in real-time. If a system is planned correctly, there would not be any. The intent of the statement is not clear.

Adding requirements to FAC-011 (covering the operating horizon) to be consistent with requirements 2.4 and 2.5 in FAC-010 (covering the planning horizon) is not appropriate for several reasons. First of all, requirements 2.4 and 2.5 are based on "Starting with all facilities in service . . .". Is it the intent of the SAR that the RCs only have to operate to Category C contingencies in real-time when they are "Starting with all facilities in service . . ."? This seldom is the real-time condition in the operating horizon. At any given time in the operating horizon, a system could be operating in an n-1,2,3 or more condition.

Secondly, the requirements for the planning horizon allow for certain actions to be taken in response to any of the multiple contingencies, whereas (as noted in the comment provided for question 1), having to operate to multiple contingencies means having to take pre-contingency pre-emptive control actions so that the system can be "postured for meeting Category C contingencies". This would require operating the system to more stringent requirements than those under which it was planned.

Thirdly, the Detailed Description states, "Following a single or double contingency, the system will no longer be required to be operated to Category C contingencies." As pointed out previously, in the operating horizon there is usually always one or more elements out of service -- not only in an RC's footprint but also in neighboring systems. Therefore, the proposed SAR does not clearly specify how to identify a contingency whose occurrence would be used to determine whether or not to consider Category C contingencies. Also, it is not clear how an RC would set up its contingency analysis tools to consider Category C contingencies part of the time and not the rest of the time.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: FAC-011 is an operating standard that currently applies only to Reliability Coordinators. It should also apply to Transmission Operators and any other entity with a responsibility for monitoring SOLs in the operating horizon. It should not apply to Transmission Planners or Planning Coordinators.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments:

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Please use this form to submit comments on the proposed SAR to revise system operating limit methodology in FAC-011-1 to require consideration of credible multiple element contingencies in the operating horizon (Project 2008-05). Comments must be submitted by **February 22, 2008**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "SOLs-Multiple Contingency" in the subject line. If you have questions please contact David Taylor at david.taylor@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Greg Rowland	
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E-mail:	gdrowland@dukeenergy.com	
NERC Region (check all Regions in which your company operates)		Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 — Transmission Owners
<input type="checkbox"/> FRCC	<input type="checkbox"/>	2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input checked="" type="checkbox"/>	3 — Load-serving Entities
<input type="checkbox"/> NPCC	<input type="checkbox"/>	4 — Transmission-dependent Utilities
<input checked="" type="checkbox"/> RFC	<input type="checkbox"/>	5 — Electric Generators
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/>	6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> SPP	<input type="checkbox"/>	7 — Large Electricity End Users
<input type="checkbox"/> WECC	<input type="checkbox"/>	8 — Small Electricity End Users
<input type="checkbox"/> NA – Not Applicable	<input type="checkbox"/>	9 — Federal, State, Provincial Regulatory or other Government Entities
	<input type="checkbox"/>	10 — Regional Reliability Organizations and Regional Entities

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Requirement R3.3 of FAC-011-1 already requires the RC's methodology for determining SOLs to include a process for determining which stability limits arising from multiple contingencies (provided by the Planning Authority) will be applied in the operating horizon, given actual or expected conditions. R4 requires the RC to communicate that information to appropriate other RC's, Planning Authorities, Transmission Planners and Transmission Operators. R5 provides an opportunity for any recipient to challenge the methodology and a response is mandated. This provides a reasonable avenue to address any specific areas of reliability concern.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: R2 of FAC-011-1 should not be revised to require the Reliability Coordinator to operate in real time to credible multiple element contingencies. This would unnecessarily restrict the RC's flexibility in determining stability limits appropriate for actual or expected system conditions.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: We don't agree with the applicability of this SAR because we believe the SAR is unnecessary.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments:

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
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Organization:	ERCOT	
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NERC Region (check all Regions in which your company operates)		Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input checked="" type="checkbox"/> ERCOT	<input type="checkbox"/>	1 — Transmission Owners
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/>	2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input type="checkbox"/>	3 — Load-serving Entities
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<input type="checkbox"/> NA – Not Applicable	<input type="checkbox"/>	9 — Federal, State, Provincial Regulatory or other Government Entities
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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The existing standards requirements for contingencies used in operations result in an adequate level of reliability. In addition, the recently approved revision of FAC-011-1 adds the requirement to consider, in the operating horizon, credible multiple contingencies that result in a stability limit.

The proposed change increases the number of contingencies which must be considered without defining the new level of reliability which must be attained. ERCOT understands that it is appropriate to evaluate a more robust list of contingencies in system planning than in system operations. The more conservative approach defined for Planning drives the design and construction of a Bulk Electric System (BES) which may be reliably operated under a wide array of actual conditions. It is impractical and inappropriate to mandate that same conservative approach to the operating horizon without first defining the new level of reliability that must be obtained.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The proposed scope assumes that the remedies used by planning to resolve reliability violations that result from the more inclusive contingency list are also available in operations. In fact, many of the BES physical modifications used by planning cannot be applied in operations. In addition, operations takes the condition of the BES at any given time as its starting point for reliability analysis. This fact alone differentiates operational analysis from planning, and should be considered when defining what contingencies are considered for each horizon. Once again, the level of reliability to be attained in operations needs to be defined before the standards needed to reach that level can be considered.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: The requirements proposed by this draft will have an adverse impact upon many established electric markets due to a decrease in the ability to transport power across the BES. In addition to the adverse impact upon market operations, there will likely be very expensive system modifications required in order to lessen this impact. The expense of these modifications and the risk assumed in incorporating the construction outages needed to make these improvements should all be considered when evaluating this SAR draft. ERCOT maintains that before such reliability standards are changed, the expected level of reliability performance should be clearly defined.

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Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
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Organization:	ERCOT
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E-mail:	smyers@ercot.com
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input checked="" type="checkbox"/> ERCOT	<input type="checkbox"/> 1 — Transmission Owners
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/> 2 — RTOs and ISOs
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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

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Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

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Insert a “check” mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The existing standards requirements for analyzing single contingencies as required in FAC-011-1 Requirements R2.2 through R2.2.3 and any multiple contingencies required by FAC-011-1 Requirements R3.3 and R3.3.1 as identified in accordance with FAC-014-1 Requirement R6 establish an adequate level of reliability. The multiple contingencies to be considered are those identified by the Planning Authority as the subset of multiple contingencies (if any), from Reliability Standard TPL-003 which result in stability limits.

The proposed standard action unnecessarily increases the number of contingencies which must be considered. The industry understands that it is appropriate to evaluate a more robust list of contingencies in system planning than in operations planning. This allows for the Bulk Electric System (BES) to be operated under a wide array of actual conditions and within operating limits. System Planning processes consistently assume all facilities are available and either in service or capable of being placed into service as needed to address study concerns. Operations Planning must deal with the real-time status of the BES as its starting point, including any forced outages or planned outages which have occurred or are in progress.

System planning personnel have more time to evaluate, assess and plan than do operators. It is appropriate for system planners to plan for Category C contingencies. As appropriate, the existing standards allow for the entity calculating SOL in the operations horizon methodology to consider additional contingencies; however, it is impractical and inappropriate to mandate that an operating horizon, which applies to and is determined from actual operating conditions, to be based upon multiple contingency events. The numbers of contingencies can easily be orders of magnitude greater and real-time operating tools may not consider such numbers of contingencies within the time permitted during real-time operations. Therefore, to require such would require unnecessarily constrained operations within limits which were developed offline; typically such limits are significantly reduced values.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The scope equates operational challenges with those which must be identified within the planning horizon. The planning horizon must consider many more contingencies because often the solution must be provided through physical BES

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

modifications through construction projects. The scope proposed will likely result in the requirement for many entities to modify the transmission systems and will unnecessarily be very expensive to implement.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The applicability must be one that will properly provide for each of the many organizational arrangements to address the requirements. While the NERC Reliability Standards make it the responsibility of the Reliability Coordinator to operate within limits, not all organizational arrangements provide for the Reliability Coordinator to actually calculate the limits. In some cases, other entities actually calculate the limits on behalf of the Reliability Coordinator and provide the results to the Reliability Coordinator to use in operations activities.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: The requirements proposed by this draft of the SAR will likely result in a significant and undue adverse impact upon the functioning of many established markets. This will occur due to reduced limits until system modifications can be effected, sometimes through several years of construction requirements. In addition to the adverse impact upon market operations, there will likely be very expensive system modifications required in order to construct a system that will not restrict the market operations to such magnitude.

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Name:		
Organization:		
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<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 — Transmission Owners
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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Please see response to Q4.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Please see response to Q4.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Should the proposed SAR continue through the standards process, there should be no expansion of the applicability to additional functional entities. The applicability should remain solely with the Reliability Coordinator, the entity with the Wide Area view and the responsibility for the reliable operation of the Bulk Electric System. Specifically, the Transmission Planner develops a long term plan (generally one year and beyond) for the reliability of the BES within its portion of the Planning Coordinator Area, and does not have responsibility for operating the system on a real-time basis. Similarly, the Planning Coordinator integrates and coordinates the plans of the individual Transmission Planners and does not have responsibility for real-time operation of the BES. While the Transmission Operator function operates and directs operations of transmission facilities, it does so on a limited geographic basis and does not necessarily have authority over a Wide Area as would be necessary for an entity to be able to fulfill the requirements of this standard. As such, the applicability of this standard should not be expanded and should remain solely with the Reliability Coordinator.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: There is no reliability-based need for this SAR to move forward. It is generally understood that the evaluation of contingencies in transmission planning must be more robust than in operations planning so that the Bulk Electric System can be

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

operated under a wide array of actual conditions and within operating limits. Transmission planners have more time to evaluate, assess and plan than do operators. It is appropriate for transmission planners to plan for Category C contingencies. The existing standard allows each Reliability Coordinator to consider additional contingencies in its operations horizon SOL methodology. However, it is impractical and inappropriate to mandate that an operating horizon SOL, which applies to and is determined from actual operating conditions, be based on multiple contingency events.

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
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Organization:	FirstEnergy Corp.	
Telephone:	330-384-4698	
E-mail:	hohlbaughdg@firstenrgycorp.com	
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)	
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 — Transmission Owners
<input type="checkbox"/> FRCC	<input type="checkbox"/>	2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input checked="" type="checkbox"/>	3 — Load-serving Entities
<input type="checkbox"/> NPCC	<input type="checkbox"/>	4 — Transmission-dependent Utilities
<input checked="" type="checkbox"/> RFC	<input checked="" type="checkbox"/>	5 — Electric Generators
<input type="checkbox"/> SERC	<input checked="" type="checkbox"/>	6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> SPP	<input type="checkbox"/>	7 — Large Electricity End Users
<input type="checkbox"/> WECC	<input type="checkbox"/>	8 — Small Electricity End Users
<input type="checkbox"/> NA – Not Applicable	<input type="checkbox"/>	9 — Federal, State, Provincial Regulatory or other Government Entities
	<input type="checkbox"/>	10 — Regional Reliability Organizations and Regional Entities

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The SAR is somewhat confusing in that on one hand the author seems to make a case to operate to all NERC Category C contingencies, but later describes credible multiple contingencies as only those multiple contingencies that could lead to potential IROL conditions. Either way, FE does not believe there is a reliability-related need for the proposed standard revision.

If the SAR proposing to require all entities to operate their system real-time to all NERC Category C, in otherwords identify AND manage all SOL violations, it is is FE's opinion that this is an overly conservative operating approach for many low probability multiple contingencies. In market areas using LMP and generation control to operate to next-contingency performance, this would lead to inflated congestion management costs to market participants.

Additionally, many market areas already operate to potential single contingency events and redispatch or reconfigure the transmission systems pre-contingency to stay within system limits. If an actual contingency occurs, the system continues to be operated pre-contingency for the next contingency. Therefore, at a minimum Category C3 events are already being managed in real-time in many areas of the bulk electric system.

If the intent is to identify SOLs to all Category C and only manage those which could be potential IROLs we believe the latter (IROL aspect) is already covered per requirement R3.3 of FAC-011. To require the identification of all SOLs for all NERC Category C events in real-time would overwhelm the transmission operator and potentially mask more probable contingency events that require the operators' attention.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: See Comment 1

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

No

Comments: FE believes the appropriate level of coverage for multiple contingency events within the operating environment is presently accomplished by FAC-011 R3.3

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments:

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Please use this form to submit comments on the proposed SAR to revise system operating limit methodology in FAC-011-1 to require consideration of credible multiple element contingencies in the operating horizon (Project 2008-05). Comments must be submitted by **February 22, 2008**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "SOLs-Multiple Contingency" in the subject line. If you have questions please contact David Taylor at david.taylor@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
E-mail:		
NERC Region (check all Regions in which your company operates)		Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 — Transmission Owners
<input type="checkbox"/> FRCC	<input type="checkbox"/>	2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input type="checkbox"/>	3 — Load-serving Entities
<input type="checkbox"/> NPCC	<input type="checkbox"/>	4 — Transmission-dependent Utilities
<input type="checkbox"/> RFC	<input type="checkbox"/>	5 — Electric Generators
<input type="checkbox"/> SERC	<input type="checkbox"/>	6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> SPP	<input type="checkbox"/>	7 — Large Electricity End Users
<input type="checkbox"/> WECC	<input type="checkbox"/>	8 — Small Electricity End Users
<input type="checkbox"/> NA – Not Applicable	<input type="checkbox"/>	9 — Federal, State, Provincial Regulatory or other Government Entities
	<input type="checkbox"/>	10 — Regional Reliability Organizations and Regional Entities

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Although the concept, in principle, appears worthy, the equitable application of such a revision would be, at best, extremely difficult, at worst it would constrain markets and force operating entities into potentially inefficient and out of economic modes of operation for no appreciable increase in Reliability.

System operations is inherently dynamic. To try to equitably define, and have interpreted, "credible multiple contingencies" across the ERO, would be a very difficult task. As an example, if a hurricane approaches an area of the grid, should operators proactively shed load to protect for the potential loss of a 4 line corridor for fear of being found "non-compliant" during a post-event analysis? Whatever the interpretation is, would it be same in California, or New York? If a multiple element contingency does occur and results in an SOL or even IROL violation (e.g. Tornado), should an operating entity be penalized for not posturing or designing its system to withstand the event? There are a tremendous number of variables and threats involved with system operations, from maintenance activities to equipment failures. The current suite of reliability standards provide the reliability protections necessary to require the operators to respond to whatever variables they are presented with and to efficiently posture their systems to withstand the next contingency element loss. To try to hard-wire the "credible multiple contingencies" would create a myriad of administrative analyses which would inevitably be second guessed during a post-event analysis.

For the low-probability contingency events postulated for individual systems, operators rely on the planners to ensure acceptable system responses to losses of multiple elements either through automatic special protection systems or to allow enough time for emergency operator intervention.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Based on the answer to question 1.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Yes

No

Comments: Based on the answer to question 1.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: Again, we can appreciate the concept and the perceived benefits to reliability it presents, but introduction of such a concept into the current state of the standards (some lacking clarity), coupled with the fear of enforcement penalties, would lead to extremely conservative modes of operations which may in the near term constrain commerce, reduce the reliability benefits of interconnected operations and would eventually lead to high economic cost for little or no appreciable reliability benefit to routine system operations.

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Please use this form to submit comments on the proposed SAR to revise system operating limit methodology in FAC-011-1 to require consideration of credible multiple element contingencies in the operating horizon (Project 2008-05). Comments must be submitted by **February 22, 2008**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "SOLs-Multiple Contingency" in the subject line. If you have questions please contact David Taylor at david.taylor@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Wayne Pourciau
Organization:	Georgia System Operations Corporation
Telephone:	770-270-7118
E-mail:	wayne.pourciau@gasoc.com
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 — Transmission Owners
<input type="checkbox"/> FRCC	<input type="checkbox"/> 2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input checked="" type="checkbox"/> 3 — Load-serving Entities
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<input checked="" type="checkbox"/> SERC	<input type="checkbox"/> 6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> SPP	<input type="checkbox"/> 7 — Large Electricity End Users
<input type="checkbox"/> WECC	<input type="checkbox"/> 8 — Small Electricity End Users
<input type="checkbox"/> NA – Not Applicable	<input type="checkbox"/> 9 — Federal, State, Provincial Regulatory or other Government Entities
	<input type="checkbox"/> 10 — Regional Reliability Organizations and Regional Entities

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: NERC did not consider cost vs. benefit in the definition of Adequate Level Of Reliability. The claim made was that cost vs. benefit is considered in the standard development process. GSOC agrees that this proposed change would have some benefit. Without knowing the value of the benefit of this change, GSOC cannot say that we agree with the need for the change. This SAR should address cost vs. benefit.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: See comment above regarding the inclusion of cost vs. benefit aspects.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: As written, it is not clear what will be the applicability other than to the Reliability Coordinator's methodology for determining SOLs in the operating horizon. It seems that this change will only apply to the RC.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: There is some degree of inconsistency in terminology. The SAR refers to "credible" multiple element contingencies identified in TPL-003-0, Table 1 and making requirements consistent with FAC-010-1 R2.4 & 2.5. Neither FAC-010 nor TPL-003-0 (and Table 1) covers "credibility." They just cover specific listed cases, credible or not.

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Please use this form to submit comments on the proposed SAR to revise system operating limit methodology in FAC-011-1 to require consideration of credible multiple element contingencies in the operating horizon (Project 2008-05). Comments must be submitted by **February 22, 2008**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "SOLs-Multiple Contingency" in the subject line. If you have questions please contact David Taylor at david.taylor@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	David Kiguel	
Organization:	Hydro One Networks Inc.	
Telephone:	416-345-5313	
E-mail:	David.Kiguel@HydroOne.com	
NERC Region (check all Regions in which your company operates)		Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 — Transmission Owners
<input type="checkbox"/> FRCC	<input type="checkbox"/>	2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input type="checkbox"/>	3 — Load-serving Entities
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/>	4 — Transmission-dependent Utilities
<input type="checkbox"/> RFC	<input type="checkbox"/>	5 — Electric Generators
<input type="checkbox"/> SERC	<input type="checkbox"/>	6 — Electricity Brokers, Aggregators, and Marketers
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<input type="checkbox"/> WECC	<input type="checkbox"/>	8 — Small Electricity End Users
<input type="checkbox"/> NA – Not Applicable	<input type="checkbox"/>	9 — Federal, State, Provincial Regulatory or other Government Entities
	<input type="checkbox"/>	10 — Regional Reliability Organizations and Regional Entities

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: It is important for reliability to achieve consistency between the planning and operating contingency criteria.

We believe that the contingencies considered in determining SOLs and IROLs for the operation horizon, must be consistent with those considered TPL standards for the planning horizon. The lack of consistency implies that the system would be planned with a more stringent contingency criteria than those applied to operations.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: Work in this project must be coordinated with the current projects on the TPL and other standards.

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Roger Champagne	
Organization:	Hydro-Québec TransÉnergie (HQT)	
Telephone:	514 289-2211, X 2766	
E-mail:	champagne.roger.2@hydro.qc.ca	
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)	
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 — Transmission Owners
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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: It is important for reliability to achieve consistency between the planning and operating contingency criteria.

Consistency in treatment ensures that we meet the objectives laid out by FERC and other reliability entities in their various directives – consistency, transparency, and coordination.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments:

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Ron Falsetti
Organization:	IESO
Telephone:	905-855-6187
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NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 — Transmission Owners
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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

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Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Reviewing the contingency list to be considered in determining SOLs and IROLs for the operation horizon, with an aim to achieve consistency with the list provided in the TPL standards for the planning horizon, is necessary to ensure reliability in all time frame. If the difference were to continue to exist, one would question why would the system be planned with a more stringent contingency criteria than those applied to operations.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: The IESO strongly supports the notion of developing consistent set of contingency criteria between the planning and operating horizons in the determination of SOLs and IROLs. While FAC-011 has a provision for the Reliability Coordinators to consider the contingency requirements stipulated in the TPL standards, leaving that to the discretion of individual RCs would expose the interconnection to unreliable operations given the RC areas are so tightly interconnected.

This SAR also addresses FERC's concerns, raised through Order 705, on consistency between the FAC, TPL, and MOD standards. Differences in contingency sets tremendously increase the probability of the system entering an "unknown" operating state in real time operations. Differences in contingency sets also open up the potential for undue discrimination. Consistency in treatment ensures that we meet the objectives

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

laid out by FERC and other reliability entities in their various directives – consistency, transparency, and coordination.

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Please use this form to submit comments on the proposed SAR to revise system operating limit methodology in FAC-011-1 to require consideration of credible multiple element contingencies in the operating horizon (Project 2008-05). Comments must be submitted by **February 22, 2008**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "SOLs-Multiple Contingency" in the subject line. If you have questions please contact David Taylor at david.taylor@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Kathleen Goodman
Organization:	ISO New England
Telephone:	(413) 535-4111
E-mail:	kgoodman@iso-ne.com
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 — Transmission Owners
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/> 2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input type="checkbox"/> 3 — Load-serving Entities
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/> 4 — Transmission-dependent Utilities
<input type="checkbox"/> RFC	<input type="checkbox"/> 5 — Electric Generators
<input type="checkbox"/> SERC	<input type="checkbox"/> 6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> SPP	<input type="checkbox"/> 7 — Large Electricity End Users
<input type="checkbox"/> WECC	<input type="checkbox"/> 8 — Small Electricity End Users
<input type="checkbox"/> NA – Not Applicable	<input type="checkbox"/> 9 — Federal, State, Provincial Regulatory or other Government Entities
	<input type="checkbox"/> 10 — Regional Reliability Organizations and Regional Entities

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments:

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Thomas Burke
Organization:	Luminant
Telephone:	214 875 8425
E-mail:	tburke2@luminant.com
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input checked="" type="checkbox"/> ERCOT	<input type="checkbox"/> 1 — Transmission Owners
<input type="checkbox"/> FRCC	<input type="checkbox"/> 2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input type="checkbox"/> 3 — Load-serving Entities
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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Please see response to Q4.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Please see response to Q4.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: This Reliability Standard should be a Regional Standard only. Some regions already have different Regional Standards to cover these circumstances. If the proposed SAR continue through the standards process, there should be no expansion of the applicability to additional functional entities. The applicability should remain solely with the Reliability Coordinator, the entity with the Wide Area view and the responsibility for the reliable operation of the Bulk Electric System. Specifically, the Transmission Planner develops a long term plan (generally one year and beyond) for the reliability of the BES within its portion of the Planning Coordinator Area, and does not have responsibility for operating the system on a real-time basis. Similarly, the Planning Coordinator integrates and coordinates the plans of the individual Transmission Planners and does not have responsibility for real-time operation of the BES. While the Transmission Operator function operates and directs operations of transmission facilities, it does so on a limited geographic basis and does not necessarily have authority over a Wide Area as would be necessary for an entity to be able to fulfill the requirements of this standard. As such, the applicability of this standard should not be expanded and should remain solely with the Reliability Coordinator.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: There is no NERC-wide reliability reason for this SAR to move forward. Each Region should consider if their standards already address this issue. It is

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

understood within ERCOT that the evaluation of contingencies in transmission planning must be more robust than in operations planning so that the Bulk Electric System can be operated under a wide array of actual conditions and within operating limits. Transmission planners have more time to evaluate, assess and plan than do operators. It is appropriate for transmission planners to plan for Category C contingencies. The existing standard allows each Reliability Coordinator to consider additional contingencies. The standards already delineated in the ERCOT Operating Guides are more restrictive than the NERC standards and are tailored to the types of events which occur in the ERCOT region. The operating guide language will be incorporated into the ERCOT Regional Standards in the future.

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
E-mail:		
NERC Region (check all Regions in which your company operates)		Registered Ballot Body Segment (check all industry segments in which your company is registered)
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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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*If more than one Region or Segment applies, please list all that apply. Regional acronyms and segment numbers are shown on prior page.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: This SAR appears to be an attempt to require all entities to operate their transmission system to Type C contingencies. There has been no rationale given to support this SAR other than a reference to a study presented to the NERC OC several years ago with data that is at least five years old. Further, the SAR does not provide a copy of the study or means to get a copy or conclusions drawn by the NERC OC about the validity of the results. It obviously does not give an interested reviewer an opportunity to analyze the study to come his own conclusions. Furthermore, this appears to be an attempt by the NPCC region to reintroduce a SAR that was soundly defeated over a year ago. If this NPCC feels this is a needed standard, they should introduce a regional standard or variance. Since there is significant support with NPCC companies, it will be easily passed. However, this NPCC should not attempt to pursue an application of what is really an existing NPCC regional requirement on the rest of the industry especially when the industry previously defeated a very similar SAR. The NPCC region is certainly an expert on the operation of the NPCC BES but cannot be considered an expert on the rest of the BES.

FAC-011 R3.3 already requires the basics of what is needed for monitoring multiple contingencies. The Planning Authority must provide a list of multiple contingencies that should be considered for use in the operating horizon. The RC must have a process to determine which from this candidate list are then applied. Thus, if the RC is already required to operate to certain multiple contingencies that are most likely to cause stability limitations, what will adding additional multiple contingency do? It will degrade reliability by causing the operator and support personnel to focus on contingencies that are neither credible nor likely to cause stability issues.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The project should consider subcategorizing those contingency listed under category C that may be deemed credible during certain time.

For example, HVDC Bipole block may be treated similar to common tower contingency but may be differently than single line to ground fault with breaker failure realizing that not all Category C contingency has the same probability.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

In addition, the project should also consider the risk of the Category C event. For example, some category C event may lead to Cascading outages, while other only cause local system impact.

Actions in securing the transmission system may be different depending on the risk of the multiple element contingency

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The project should consider the fact that the current transmission system was built and planned based on the current TPL standard. If FAC Standard for operation is going to be put in place to enforce operating limitation to honor N-2, then the project needs to address the current TPL standard such that Transmission System needs to be built and planned based on the more stringent requirement, otherwise no planned maintenance outage can be performed while meeting the new FAC standard with N-2.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: These standards should be added to the SAR related standards- "FAC-010-1 R2.4 & R2.5" and "TPL-003-0, Table 1".

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Maria Neufeld	
Organization:	Manitoba Hydro	
Telephone:	204 487 5458	
E-mail:	mneufeld@hydro.mb.ca	
NERC Region (check all Regions in which your company operates)		Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 — Transmission Owners
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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The fact that PJM suffered 18 multiple contingencies in a 6 year period does not mean to me that there is a reliability need for this standard. If the system had not performed according to specific standards as a result of the multiple contingencies, then a need would have been demonstrated.

That being said, planning standards stipulate that the system must be planned to withstand Category C contingencies for reliability. If we build to withstand Category C contingencies, we should operate to the same stipulation.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Credibility must first be addressed. What is a credible multiple contingency? History and probability should be included in the definition of a credible multiple contingency. Especially for the third description of Category C "Category B contingency followed by another Category B contingency", the likelihood of two unrelated lines faulting within a very short time span must be considered before requiring entities to protect for it.

Secondly, what is the acceptable level of multiple contingencies? In the way this standard has been proposed, there has been a judgment that 3 multiple contingencies a year (or 18 in a 6 year period) is unacceptable. Which part of it is unacceptable? Multiple contingencies will happen, and for category C disturbances, planned or controlled loss of demand is acceptable. Did the system perform according to standards for those 18 multiple contingencies?

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Gregory Campoli
Organization:	New York Independen System Operator
Telephone:	518-356-6159
E-mail:	gcampoli@nyiso.com
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 — Transmission Owners
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1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

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Yes

No

Comments:

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Diane Barney	
Organization:	New York State Dept. of Public Service	
Telephone:	518-486-2943	
E-mail:	diane_barney@dps.state.ny.us	
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)	
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No

Comments:

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Yes

No

Comments:

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments:

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Please use this form to submit comments on the proposed SAR to revise system operating limit methodology in FAC-011-1 to require consideration of credible multiple element contingencies in the operating horizon (Project 2008-05). Comments must be submitted by **February 22, 2008**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "SOLs-Multiple Contingency" in the subject line. If you have questions please contact David Taylor at david.taylor@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Guy Zito
Organization:	Northeast Power Coordinating Council
Telephone:	212-840-2070
E-mail:	Gzito@npcc.org
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 — Transmission Owners
<input type="checkbox"/> FRCC	<input type="checkbox"/> 2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input type="checkbox"/> 3 — Load-serving Entities
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/> 4 — Transmission-dependent Utilities
<input type="checkbox"/> RFC	<input type="checkbox"/> 5 — Electric Generators
<input type="checkbox"/> SERC	<input type="checkbox"/> 6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> SPP	<input type="checkbox"/> 7 — Large Electricity End Users
<input type="checkbox"/> WECC	<input type="checkbox"/> 8 — Small Electricity End Users
<input type="checkbox"/> NA – Not Applicable	<input type="checkbox"/> 9 — Federal, State, Provincial Regulatory or other Government Entities
	<input checked="" type="checkbox"/> 10 — Regional Reliability Organizations and Regional Entities

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Group Comments (Complete this page if comments are from a group.)			
Group Name:	NPCC Regional Standards Committee		
Lead Contact:	Guy Zito		
Contact Organization:	NPCC		
Contact Segment:	Regional Standards		
Contact Telephone:	212-840-1070		
Contact E-mail:	Gzito@npcc.org		
Additional Member Name	Additional Member Organization	Region*	Segment*
Lee Pedowicz	NPCC	NPCC	10
Brian Evans-Mongeon	Utility Services, LLC	NPCC	6
Randy MacDonald	New Brunswick System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1, 2
Ronald Hart	Dominion Resources, Inc.	NPCC	5
Biju Gopi	Independent Electricity System Operator	NPCC	2
Murale Gopinathan	Northeast Utilities	NPCC	1, 4
Michael Ranalli	National Grid	NPCC	1, 4
Kathleen Goodman	ISO New England	NPCC	2
Ralph Rufrano	New York Power Authority	NPCC	1, 4, 5, 6, 9
Peter Yost	Consolidated Edison Company of New York, Inc.	NPCC	1, 4, 5, 6
Roger Champagne	Hydro-Quebec TransEnergie	NPCC	1, 2
Gregory Campoli	New York Independent System Operator	NPCC	2
Brian Gooder	Ontario Power Generation Incorporated	NPCC	5
Donald Nelson	Massachusetts Department of Public Utilities	NPCC	9

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

*If more than one Region or Segment applies, please list all that apply. Regional acronyms and segment numbers are shown on prior page.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments:

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: The title should be revised to read "SAR To Revise System Operating Limit Methodolgy If FAC-011-1 To Require Consideration Of Credible Single Contingencies Consisting Of Multiple Elements."

Drafting Team must coordinate the development of the standard with the MOD and TPL standards.

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Stan Southers / Ellis Rankin
Organization:	Oncor Electric Delivery Company LLC
Telephone:	214-486-2084 / 214-743-6825
E-mail:	stan.southers@oncor.com / erankin@oncor.com
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input checked="" type="checkbox"/> ERCOT	<input checked="" type="checkbox"/> 1 — Transmission Owners
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<input type="checkbox"/> SERC	<input type="checkbox"/> 6 — Electricity Brokers, Aggregators, and Marketers
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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Please see response to Q4.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Please see response to Q4.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: If the proposed SAR continues through the standards process, there should not be any expansion of the applicability to additional functional entities - the applicability should remain solely with the Reliability Coordinator. As a case in point, the Transmission Planner develops a long term plan (generally one year and beyond) for the reliability of the BES within its portion of the Planning Coordinator Area, but does not have responsibility for operating the system on a real-time basis. In similar manner, the Transmission Operator function operates and directs operations of transmission facilities on a limited geographic basis, but does not necessarily have authority over a wide area as would be necessary for an entity to be able to fulfill the requirements of this standard.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: There is no reliability-based need for this SAR to move forward. It is understood that the evaluation of contingencies in transmission planning must be more robust than in operations planning so that the Bulk Electric System can be operated under a wide array of actual conditions and within operating limits. Transmission planners have more time to evaluate, assess and plan than do operators. It is appropriate for transmission planners to plan for Category C contingencies. The existing standard allows each Reliability Coordinator to consider additional contingencies in its operations horizon SOL methodology. However, it is impractical and inappropriate to

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

mandate that an operating horizon SOL, which applies to and is determined from actual operating conditions, be based on multiple contingency events.

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Please use this form to submit comments on the proposed SAR to revise system operating limit methodology in FAC-011-1 to require consideration of credible multiple element contingencies in the operating horizon (Project 2008-05). Comments must be submitted by **February 22, 2008**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "SOLs-Multiple Contingency" in the subject line. If you have questions please contact David Taylor at david.taylor@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Patrick Brown
Organization:	PJM Interconnection
Telephone:	610-666-4597
E-mail:	brownp@pjm.com
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 — Transmission Owners
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/> 2 — RTOs and ISOs
<input type="checkbox"/> MRO	<input type="checkbox"/> 3 — Load-serving Entities
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<input type="checkbox"/> WECC	<input type="checkbox"/> 8 — Small Electricity End Users
<input type="checkbox"/> NA – Not Applicable	<input type="checkbox"/> 9 — Federal, State, Provincial Regulatory or other Government Entities
	<input type="checkbox"/> 10 — Regional Reliability Organizations and Regional Entities

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

Not developing both planning and operating standards for determining SOLs that include "credible single contingency" multiple element forced outages, i.e., Category C contingencies, despite the frequent occurrence of such events, would be accepting a type of event that could lead to a high risk of unreliable performance. Therefore, the system must be postured for meeting credible Category C contingencies for determining SOLs in the steady state as well as in the stability areas, as is now required by standards TPL-003-0 and FAC-010-1 in the planning horizon. Strengthening of FAC-011-1, by considering credible multiple element contingencies, would make this standard consistent with TPL-003-0 and FAC-010-1, and would improve system performance by operating, as well as planning to Category C contingencies.

The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: The existing standard's requirements for analyzing single contingencies as required in FAC-011-1, requirements R2.2 through R2.2.3, and any multiple contingencies required by FAC-011-1, requirements R3.3 and R3.3.1, as identified in accordance with FAC-014-1 requirement R6, establish an adequate level of reliability.

The Planning Authority studies and plans for multiple contingencies (N-2), but normally operates to single contingencies (N-1). Under pre-determined, documented abnormal conditions, the Registered Entity may declare a state of 'Conservative Operations', directing the use of specific multiple or maximum credible contingencies, consistent with established, documented procedures.

To operate to ALL category C contingencies would be an unnecessary burden on both the Planning Authority and the Transmission Operator. Operating to pre-determined and credible multiple contingencies will allow for the reliable operation of the system without creating undo burden.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Although it is good practice to study all potential category C contingencies as part of the planning process, it would not be practical nor desirable to operate to the same set of contingencies in real-time. Planning and Operations are two distinct, albeit related, processes, and should be treated as such.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: In its current form, the SAR's suggested changes would have a serious negative impact on economic dispatch in all regions. The suggested requirements would greatly increase the number of off-cost operations and the overall cost of serving load within the region, without significantly improving the reliability of the system.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: PJM is curious as to why it's data was used as justification for the SAR. The implication is that PJM has many credible multiple contingencies that are not considered in operations. This is not correct. Those credible multiple contingencies that have been identified as having the potential to threaten system reliability are monitored on a continuous basis.

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
E-mail:		
NERC Region (check all Regions in which your company operates)		Registered Ballot Body Segment (check all industry segments in which your company is registered)
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 — Transmission Owners
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<input type="checkbox"/> RFC	<input type="checkbox"/>	5 — Electric Generators
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/>	6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> SPP	<input type="checkbox"/>	7 — Large Electricity End Users
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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

Background Information:

Credible multiple element contingencies pose a threat to the reliability of the bulk electric system in North America. Multiple element contingency events such as bus and circuit breaker failures, double-circuit line outages and outages caused by operator misoperation are common events. Their system impact is more severe than single element Category B events by their nature of involving multiple elements.

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The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Requirements 3.3 and R4 of FAC-011-1 already require the reliability coordinator to determine which stability limits arising from multiple contingencies it will apply in real time and requires the reliability coordinator to convey that information to other reliability coordinators, planning authorities and transmission operators. The list of multiple contingencies is supplied by the planning authority and is applicable for use in the operating horizon given the actual or expected system conditions. This is consistent with the Commission's directives in Order 693.

The Commission states that the FAC-011-1 methodology already requires the reliability coordinator to determine SOLs by considering both the multiple contingencies provided by the planning authority that could result in instability of the Bulk Power System and the facility outages and minimum set of single contingencies that were previously considered.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: Requirement 2 of FAC-011-1 should not be revised to require the reliability coordinator to operate in real time to credible multiple element contingencies. Requirements 3.3 and R4 already require the reliability coordinator to determine which stability limits arising from multiple contingencies it will apply and requires the reliability coordinator to convey that information to other reliability coordinators, planning authorities and transmission operators.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: We do not agree with the applicability of the SAR action because existing standards already adequately address the concern. Also, the issue has been vetted in previous standards development proceedings.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: This same issue was assessed through the standards process less than a year ago. The industry correctly determined that the concerns raised can be addressed through the standards as currently adopted.

It is understandable for a region to have more strenuous regional standards if their particular circumstances require it. However, it is not necessary for the entire Eastern Interconnection to operate under those same regional standards when the circumstances for the remaining Interconnection do not warrant it.

Comment Form for SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Operating Reliability Working Group (ORWG)	
Organization:	Southwest Power Pool	
Telephone:	501-614-3241	
E-mail:	rrhodes@spp.org	
NERC Region (check all Regions in which your company operates)	Registered Ballot Body Segment (check all industry segments in which your company is registered)	
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 — Transmission Owners
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Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

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The SAR requester would like to receive industry comments on this SAR. Accordingly, we request that you include your comments on this form and e-mail to sarcomm@nerc.net with the subject "SOLs-Multiple Contingency" by **February 22, 2008**.

Comment Form — SAR to Revise System Operating Limit Methodology in FAC-011-1 to Require Consideration of Credible Multiple Element Contingencies in the Operating Horizon (Project 2008-05)

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need for the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: While we see some merit in the addition of credible multiple contingencies to analysis in the operating horizon we also have concerns about how broad the definition of credible becomes and the timeframe in which such additions would become effective.

2. Do you agree with the scope of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: We would be concerned if a SDT tried to establish a one size fits all definition of credible multiple contingency. We feel that each Reliability Coordinator should have the flexibility to define credible multiple contingency within his own reliability footprint.

3. Do you agree with the applicability of the proposed standard action? If not, please explain in the comment area.

Yes

No

Comments: FAC-011 currently applies only to Reliability Coordinators. Any changes to FAC-011 should continue to apply only to the Reliability Coordinator. Applicability to Planning Coordinator, Transmission Planner and Transmission Operator should be deleted.

4. If you have other comments that you haven't provided in response to the questions above, please provide them here.

Comments: