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Please review the changes made to the SAR and answer the questions in the yellow boxes.

If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Malcolm Thaden	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Potomac Electric Power	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	202-872-2713	LSEs	Users
E-mail	mvthaden@pepco.com	☐ TDUs	☐ Small Electricity Users
	•	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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- The scope of the SAR is fine as it is
- The scope of the SAR should be expanded to include:
- The scope of the SAR should be reduced to eliminate:
- Other comments:

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- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard? ☑ Yes
□ No
Comments Page SAR-4 under Facility Ratings - The "economic lifetime of the equipment" will not affect the rating of a piece of equipment, whereas its age might.
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Thomas E Washburn	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	OUC	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	407-423-9125	□ LSEs	Users
E-mail	twashburn@ouc.com	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard?
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Comments
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SAR Commenter Information		Which Industry Segment do you represent?	
Name	John Horakh	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
	MAAC Standards	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Compliance Task Force		LSEs	Users
Telephone	609-625-6014	□ TDUs	☐ Small Electricity Users
E-mail	john.horakh@conectiv.co	☐ Generators	☐ Federal, State, and Provincial Regulatory or other
m	joini.norakii@conectiv.co		Government Entities

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- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes
□ No
Comments Concerns that MAAC had with previous versions have been successfully addressed through the posting/comment process.
If you answer no, please identify specifically what needs to be changed:

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Roman Carter	☐ Trans Owners	□ Brokers, Aggregators, and Marketers
Organization	Southern Co. Generation	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
and Energy Marketing		☑ LSEs	Users
Telephone	205.257.6027	☐ TDUs	☐ Small Electricity Users
E-mail	jrcarter@southernco.com	☑ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

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- 2. The SAR now requires that those responsible for determining facility ratings document the methodology they use in this effort and make the ratings methodology document available for review.
- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard? ☐ Yes ☐ No
Comments However, we believe the Standard developed from this SAR should allow use of existing documentation where available. Documentation should not have to be created just for NERC compliance, unless existing documentation is not adequate for the facility rating. Otherwise, additional documentation would place additional burden on the owners of the facility.
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name President-Oper	Jim Cyrulewski (P.E.), Vice ations, International		☐ Brokers, Aggregators, and Marketers
Transmission Company and Manager of the Michigan Electric Power Coordination Center		☐ RTOs, ISOs, RRCs	☐ Large Electricity End Users
		□ LSEs	
Organization	On behalf of the Michigan	☐ TDUs	☐ Small Electricity Users
Electric Coordianted Systems (MECS)	☐ Generators ☐ Federal, State,	☐ Federal, State, and	
Telephone	734-665-3628	_ Generators	Provincial Regulatory or other Government Entities
E-mail			
m	cyrulewskij@dteenergy.co		

Background Information:

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Most of the respondents indicated that there is a reliability-related need for a standard to be developed to address these issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant and revised the SAR to conform with the changes that were technically sound and appeared to be requested by or to represent a consensus of the participants.

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Do you believe that this SAR is ready to be developed into a standard?
□ No
Comments
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Richard Kafka	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Potomac Electric Power	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Company		⊠ LSEs	Users
Telephone	(301) 469-5274	☐ TDUs	☐ Small Electricity Users
E-mail	rjkafka@pepco.com	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

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Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes	
□ No	
Comments	
If you answer no, please identify specifically what needs to be changed:	

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Clay Young	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	SCE&G	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	803-217-9129	⊠ LSEs	Users
E-mail	cyoung@scana.com	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

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Do you believe that this SAR is ready to be developed into a standard?			
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Comments			
If you answer no, please identify specifically what needs to be changed:			

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Kenneth Githens	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Allegheny Energy Supply	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	412-858-1635	│	Users
E-mail		☐ TDUs	☐ Small Electricity Users
com	kgithen@alleghenyenergy.	☑ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ☐ Yes
⊠ No
Comments With the MOU between NERC and NAESB now signed, Allegheny Energy Supply would suggest the developement of the standard be delayed until NAESB can review and comment on the proposed standard.
If you answer no, please identify specifically what needs to be changed:
The section on transfer capability should be deleted and refered to NAESB for developement of a standard due to the commercial/market apsects of this section.

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SAR Commenter Information		Which Industry Segment do you represent?	
Name Transmission S	Thomas J. Vandervort, subcommittee Secretary	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization Subcommittee	Transmission	☐ RTOs, ISOs, RRCs ☐ LSEs	☐ Large Electricity End Users
Telephone	609 452-8060	□ TDUs	☐ Small Electricity Users
E-mail	tom.vandervort@nerc.net	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes
□ No
Comments The Transmission Subcommittee considers the following comments to be significant and worthy of consideration by the "Determine Facility Ratings System Operating Limi and Transfer Capability" SAR Drafting Team:
1. Brief Description, System Operating Limits: The TS believes the reference to "power transfelimits (both thermal and stability)" could be improved by including "voltage" in addition to thermal and stability: to read "power transfer limits (thermal, voltage, and stability)". NYISO, (and others, including PJM) use voltage-based transfer limits where a MW-transfer limit is a proxy for real-time voltage limitations, reactive constraints, or voltage stability limits. As currently stated, the SAR or addresses pure (equipment rating based) voltage limitations.
2. Detailed Description: Based on the Standards Process Manual, the definitions within the posted SAR will eventually be placed into the Standard's Supporting Information Elements "Glossary of Terms." This placement of these definitions into the Glossary of Terms should be noted in the SAR.
3. Detailed Description: System Operating Limits: The "System Operating Limit" definition included in the SAR will be the basis for the Standard Drafting Team. This may not be appropriat since the NERC Operating Committee has assigned the task to define "Operating Limits" to a specific task group. The Transmission Subcommittee recommends that the SAR include a statement for the Standard Drafting Team to consider the "Operating Limits" definition(s) produce by the NERC Operating Limits Definition Task Force.
4. Detailed Description: Facility Rating: The TS recommends revising the definition of "Equipment Rating" by removing "short-circuit and transient conditions." The definition will read ' individual equipment apparatus under steady state as permitted or assigned by the equipment owner." Short-circuit and transient conditions are more appropriate for system evaluation rather than for individual equipment ratings. Steady state is correct language for equipment.
5. Detailed Description, Facility Ratings: The "Facility Rating" definition should include a reference to possible time period(s) for the ratings if the tme period(s) are applicable. The TS believes that not all ratings have time-related constraints. However, those that do (e.g., emerger ratings, operating ratings, contingency ratings) are important and need to be acknowledged. Possible restatement: " that would not violate an applicable rating for a defined time period any equipment comprising the facility."
6. Throughout the SAR document "will" and "must" need to be replaced with "shall" for consistency. Since these are requirements, "shall" is the appropriate language to used.
7. Detailed Description, Facility Ratings: The TS recommends removing the following paragraph. This paragraph is an Operations paragraph and is better suited in an Operations standard such as "Operate Within System Limits" Standard. It does not belong in this SAR. "The equipment ratings determined by generator and transmission owners must not be violated by the entities responsible for the Reliability Authority, Transmission Operator and Planning Authority functions in planning and operating the bulk electric system."
8. Detailed Description, Facility Ratings: In the paragraph that starts "The standard will state that equipment owners must document the methodology " there are two references that sta "NERC, NERC Regions or their successors and entities performing the Reliability Authority and Planning Authority functions." The TS recommends "NERC, NERC Regions or their successors, and entities performing the Reliability Authority and Planning Authority functions" be changed to "entities on an as-need-to-know basis". The TS is sensitive to the confidentiality concerns of the

industry and wish to protect those interests by only requiring data-sharing with those needing it for

legitimate reliability purposes.

- 9. Detailed Description, Facility Ratings: The TS considers the paragraph "This portion of this standard will address the need for timely submission of accurate and complete facility rating information including the methodology used to determine them to the users of this information." to be inappropriate, unclear and ambiguous. The paragraph needs to be clarified, enhanced or deleted. The TS recommends deleting the paragraph as written.
- 10. Detailed Description, System Operating Limits: The TS recommends rewriting the following paragraph "This standard shall require that reliability margins be considered, identified and defined in the determination of System Operating Limits where appropriate." The descriptive language "identified and defined" are recommended additions. The TS recommends the second sentence of the paragraph be deleted because it is too vague and does not reflect a requirement. The second sentence may be enhanced and incorporated into a "reliability margin" definition.
- 11. Detailed Description, System Operating Limits: The TS considers the paragraph "This portion of this standard will address the need to determine and deliver System Operating Limits to system operators" to be inappropriate, unclear and ambiguous. The paragraph needs to be clarified, enhanced or deleted. The TS recommends deleting the paragraph as written.
- 12. Detailed Description, Transfer Capability: The TS recommends rewriting the following paragraph "This standard shall require that reliability margins be considered, identified, and defined in the determination of Transfer Capability where appropriate." The descriptive language "identified and defined" are recommended additions. The TS recommends the second sentence of the paragraph be deleted because it is too vague and does not reflect a requirement. The second sentence may be enhanced and incorporated into a "reliability margin" definition.

If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Gerald Rheault	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Manitoba Hydro	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	204-487-5423	│ ⊠ LSEs	Users
E-mail	gnrheault@hydro.mb.ca	☐ TDUs	☐ Small Electricity Users
		⊠ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

The "Determine Facility Ratings, Operating Limits, and Transfer Capabilities" SAR was posted for a 30-day public comment period from April 2 through May 3, 2002. On July 2, 2002 the Standards Authorization Committee (SAC) appointed a team to address the industry's comments submitted in response to the following questions asked about this SAR:

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- The scope of the SAR is fine as it is
- The scope of the SAR should be expanded to include:
- The scope of the SAR should be reduced to eliminate:
- Other comments:

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- 2. The SAR now requires that those responsible for determining facility ratings document the methodology they use in this effort and make the ratings methodology document available for review.
- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard?
⊠ No
Comments Manitoba Hydro believes that the present draft of this document is quite good as is but requires some modifications to further clarify the intent.
If you answer no, please identify specifically what needs to be changed:
The items to be changed are the following:
-In the "Facility Rating" section of the Detailed Description, the reliability reason for requiring that the facility rating methodology documentation be made available to the listed entities should be stated more clearly.
-In the second last paragraph of the "Facility Rating" section the words "facility ratings across NERC.,." should be changed to "facility ratings by all generation and transmission owners in each NERC region.
-The Functional Model assigns responsibility for developing System Operating Limits to the Reliability Authority. Because of legal or regulatory reasons, some transmission owners /operators cannot delegate authority for developments of these limits to the Reliability or Planning Authority. Therefore paragraph 2 of the "Definitions" in the System Operating Limits of this SAR should be worded to allow for entities other than the Reliability Authority and the Planning Authority to develop the System Operating Limits. The Functional Model should also be modified to allow for Functional Authorities other than the Reliability and Planning Authorities to develop System Operating Limits. This comment will also be forwarded to the Functional Model Review Task Group in response to their comment request related to their report dated January 1, 2003.
-The second bullet of the paragraph "The determination of System Operating Limits" should clarify the term "Contingency Criteria". This term should be clearly defined and examples of what it is should be provided.
-The nature of "Contingency Criteria" may be different from region to region based on operational requirements of the electrical system in each region. Therefore the Standard should allow for regional differences in the manner in which "Contingency Criteria" is defined in different regions as warranted.
-In the last sentence of paragraph 2 of Transfer Capability Definitions, the words "transmission owners and third party system topology should be changed to "system topology".

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Please review the changes made to the SAR and answer the questions in the yellow boxes.

If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Dale McMaster	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Power Pool of Alberta	⊠ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	(403) 705-5202	LSEs	Users
E-mail alberta.ca	dale.mcmaster@ta-	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes
□ No Comments
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Thomas C. Mielnik	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	MidAmerican Energy Co.	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	563-333-8129	⊠ LSEs	Users
E-mail		☐ TDUs	☐ Small Electricity Users
m	tcmielnik@midamerican.co	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ☐ Yes ☐ No
Comments MidAmerican Energy fully supports the SAR. Delete the extraneous punctuation after the second full sentence on page SAR-5 of the detailed description prior to issuing the SAR as final. The punctuation consists of an extra comma and an extra period.
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Gordon Pietsch	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Great River Energy	RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	763-241-2235	│	Users
E-mail	gpietsch@GREnergy.com	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ☑ Yes	
□ No	
Comments	
If you answer no, please identify specifically what needs to be changed:	

-----Original Message-----

From: Dale Winter [mailto:dwinter@HEPN.com] Sent: Thursday, January 16, 2003 9:12 AM

To: Tim Gallagher Subject: RE: Announcement - Draft #3 of Facility Ratings/Transfer

Capability SAR Posted

Hoosier Energy concurs with Version 3 and we have no comments.

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Rick Stegehuis	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization Co.	Wisconsin Electric Power	☐ RTOs, ISOs, RRCs ☑ LSEs	☐ Large Electricity End Users
Telephone	262-544-7132	⊠ TDUs	☐ Small Electricity Users
E-mail energies.com	rick.stegehuis@we-	☑ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard?
⊠ Yes
□ No
Comments Wisconsin Electric supports developing this SAR into a standard, with the following exception: Eliminate the following paragraph from the "System Operating Limits" and "Transfer Capability" sections on pages SAR-5 and SAR-6:
"This standard will require that reliability margins be considered in the determination of [System Operating Limits/Transfer Capability] where appropriate. Such margins might reflect: uncertainty in system conditions (demand levels, generation dispatch), operation of controllable elements such as phase shifting transformers, and the impact of third party loop flows, or other uncertainties."
The SAR should address the development of limits and capabilities that reflect the full physical operating capacities of the transmission system. Statements elsewhere in the SAR adequately express the intent to consider the inherent uncertainties. The above paragraph could be interpreted as suggesting margins that are part of determining the commercial use of the transmission system (such as elements of TRM or CBM). Prior industry comments did not support inclusion of these margins.
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Robert W Waldele	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	NYISO	⊠ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	518-356-6231	□ LSEs	Users
E-mail	rwaldele@nyiso.com	☐ TDUs	☐ Small Electricity Users
	·	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes
□ No
Comments
NYISO believes that the SAR is ready for standard development, but believes that it can be improved by considering the following comments on the definitions:
Facility Ratings:
Equipment ratings contains a reference to "short-circuit and transient conditions" but there is no other reference to either short-circuit study, limitations or fault-duty analysis in the SAR. The context is confusing as it is not clear if the "short-circuit" reference is to breaker interrupting rating, or "fault" as a disturbance event. Fault duty (or short-circuit limitations) should be a engineering design (i.e., planning) issue, and, as such, does NOT belong in the context of system operating limits and transfer capabilities. Equipment fault-duty ratings, and application of those ratings, need to be addressed separately to avoid confusion with traditional system transfer limitations. Reference to short-circuit should be removed.
System Operating Limits:
NYISO believes that the (several) references: "power transfer limits (both thermal and stability)" could be improved by including "voltage" in addition to thermal and stability: to read "power transfer limits (thermal, voltage, and stability)". NYISO, (and others, including PJM) use voltage-based MW transfer limits that represent real-time voltage limitations (pre- to post-contingency voltage drop), reactive resource constraints, or voltage stability (voltage collapse) limits. As currently worded, the SAR only addresses pure (equipment rating based) voltage limitations.
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	John Blazekovich	☐ Trans Owners	□ Brokers, Aggregators, and Marketers
Organization	Exelon	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	630-691-4777	│⊠ LSEs	Users
E-mail		□ TDUs	☐ Small Electricity Users
orp.com	john.blazekovich@exelonc	☑ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ☐ Yes ☐ No
Comments It is Exelon's position that other entities have a valid need for model data, therefore this SAR needs to clearly state that facility ratings developed for public models must be consistent with planning models.
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Gary Won on behalf of:	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Independent Electricity	⊠ RTOs, ISOs, RRCs	☐ Large Electricity End
Market Operator (IMO)		☐ LSEs	Users
Telephone	905-855-6427	☐ TDUs	☐ Small Electricity Users
E-mail	gary.won@theIMO.com	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes
□ No
Comments
1. The wording of the conditions and criteria noted under the definitions for "Facility" and "Equipment" ratings should be the same.
2. Retaining the three SAR subjects as one SAR (for the time being) is understood. The present SAR does a good job of keeping the definitions and subject areas separated and this approach should be continued into the Standard. The preference is to have separate Standards for each subject.
3. Understand that it is up to the owner to determine ratings as they see fit, but there should be some commonality to the ratings provided. For example, the ratings should cover a consistent set of conditions that might be expected in the operations or studies timeframes, ie under normal continuous or emergency use, similar to that described under the System Operating Limits list in the SAR now. This is not dictating a particular methodology, but is asking for ratings that have a common set of conditions as their basis.
If you answer no, please identify specifically what needs to be changed:

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Lee Westbrook	☑ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Oncor	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	214.743.6823	│	Users
E-mail		☐ TDUs	☐ Small Electricity Users
om	lwestbrook@oncorgroup.c	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard?				
□ No				
Comments				
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SAR Commenter Information		Which Industry Segment do you represent?	
Name Task Force Mer	Operating Limit Definition mbers	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
		☐ RTOs, ISOs, RRCs	<u></u>
Wayne VanOsdol, Ed Pfeiffer, Bob Reed,			☐ Large Electricity End
Al Miller, Lynna Estep, James Hartwell,		│	Users
Steve Myers, Raymond Palmieri		│ │	☐ Small Electricity Users
Organization	NERC		_
5		☐ Generators	☐ Federal, State, and
Telephone			Provincial Regulatory or other Government Entities
E-mail	oldtf@nerc.com		

Background Information:

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- The scope of the SAR should be reduced to eliminate:
- Other comments:

Most of the respondents indicated that there is a reliability-related need for a standard to be developed to address these issues. Comments were received from many different sources,

including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant and revised the SAR to conform with the changes that were technically sound and appeared to be requested by or to represent a consensus of the participants.

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- 1. The SAR has been re-organized to add greater clarity in response to numerous industry comments.
- 2. The SAR now requires that those responsible for determining facility ratings document the methodology they use in this effort and make the ratings methodology document available for review.
- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard? ☑ Yes
□ No
Comments Provided that the standard developed recognizes that while Reliability Authorities are obligated to respond to all System Operating Limit (SOL) violations, there are differences in the response depending on the severity of the violation. Specific actions are required within specific time frames for those violations that expose large areas of the Bulk Electric system to uncontrolled separation, cascading outages, voltage or transient instability, or violation of applicable reliability performance criteria. It is the opinion of the members of the Operating Limit Definition Task force that when SOL are exceeded resulting in these conditions, they represent a special subset of SOL that should be defined separately and specifically.
If you answer no, please identify specifically what needs to be changed:

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Ray Morella	□ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	FirstEnergy Corp	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	330.384.5686	□ LSEs	Users
E-mail		☐ TDUs	☐ Small Electricity Users
om	morellar@firstenergycorp.c	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

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Do you believe that this SAR is ready to be developed into a standard? ☐ Yes ☐ No Comments
If you answer no, please identify specifically what needs to be changed:
FirstEnergy continues to believe that this SAR is not ready to be developed into a standard. This proposed SAR seems to be trying to address multiple, and somewhat independent subjects in one SAR. Determine Facility Ratings, System Operating Limits and Transfer Capability should each be addressed in individual and specific SARs. Discussions of Facility Ratings and System Operating Limits may be able to be addressed satisfactorily in one SAR, but would be much better served by incorporating two SAR's on this subject matter.
The subject of Transfer Capability can only be properly be addressed in its own distinct SAR. The discussion on Transfer Capability addresses the application of the determined ratings in transfer capability analysis. Transfer Capability also needs to include discussion of ATC and the related margins (CBM and TRM), which again emphasizes the importance of keeping this area separate and distinct. A Transfer Capability SAR should address the appropriate application of various normal and emergency ratings (one hour, four hour, long term) in determining operating limits, and should also consider the appropriate application of defined operating procedures. In addition, a Transfer Capability SAR should consider the coordination of the use of the various normal and emergency ratings, and defined operating procedures, with the implementation of various TLR levels.

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Dave Little	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Nova Scotia Power	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	902 428 7708	│⊠ LSEs	Users
E-mail	david.little@nspower.ca	☐ TDUs	☐ Small Electricity Users
	·	⊠ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ☑ Yes
□ No
Comments Although the existing NERC BOT approved version of the Process Manual allows for more stringent Regional Differences NPCC members would like recognition of this to appear in the standard, not just the Manual. This will promote industry awareness and possible acceptance of more stringent criteria. This will become increasingly important if reliability legislation passes as it pertains to the enforcement of these yet to be developed standards.
A reference to an applicable time period should be included in the definition of Facility Rating to allow for Seasonal, Short Term and Long Term Emergency ratings.
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	George Bartlett	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Entergy Services	☐ RTOs, ISOs, RRCs	☐ Large Electricity End Users
Telephone		□ LSEs	
E-mail		☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ☑ Yes ☐ No
Comments We suggest the SAR be changed to place the requirement to develop OSLs on the owner of the facilities, or the Transmission Service Provider. The Realiability Authority should not be developing the OSLs.
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Alan Johnson	☐ Trans Owners	☑ Brokers, Aggregators, and Marketers
Organization	Mirant Americas Energy	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Marketing		LSEs	Users
Telephone	(678)579-3108	☐ TDUs	☐ Small Electricity Users
E-mail	alan r jahnaan@mirant aa	⊠ Generators	Federal, State, and
m	alan.r.johnson@mirant.co		Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ☐ No
Comments
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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Paul Johnson	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	AEP	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	614.552.1670	□ LSEs	Users
E-mail	pbjohnson@aep.com	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes
□ No
Comments AEP agrees that this SAR is generally ready to be developed into a standard. Recognizing that the development this standard is to ensure the reliability of the bulk electrical system, this standard must be developed in a manner so that adherence to this standard by all industry participants will further reliability, 'results' or 'measurements' required by this standard can be quantitatively measured, and must NOT simply be a measure of when data is submitted or if some particular documentation was readily available.
Additionally to the extent practical, existing NERC reference documents, and technical definitions should not be discarded, but rather employed in the development of this standard.
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Chuck Rusowicz		☐ Brokers, Aggregators, and Marketers
Organization	Con Edison	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	212-460-3501	□ LSEs	Users
E-mail	rusowiczc@coned.com	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard?
☐ Yes
⊠ No
Comments
If you answer no, please identify specifically what needs to be changed:
1 - Where Facility Ratings are provided, specific details of limiting elements should not be required.
-overall facility ratings only should be provided
- specific limiting components should not be provided
- general methodology only should be provided but not detailed calculations for each facility
- in many cases proprietary software is used to generate ratings and we cannot demand people make that available
2 - In explaining the methodology utilized in determining ratings, specific algorithms should not be required, especially where proprietary data or software is used in making such determinations.
Specific Changes to sections shown below are:
3 -The determination of System Operating Limits must address:
- the applicable (such as seasonal, normal, emergency, short term etc) Equipment Ratings and Facility Ratings
- the applicable Contingency Criteria , local reliability rules, environmental and safety regulations
-theaccuracy of system model and tolerences
-special protection systems or remidial accition plans (see SAR "Assess Transmission Future Needs and Develop Transmission Plans")
-transmission system configuration, generation dispatch and load level
-the assumptions implicit in the limits developed for the specific condition being tested
4 -System Operating Limits, which will be applicable to flows through a specific transmission facility or interface in the system, must then provide a reasonable certainty that the following do not occur:
- uncontrolled separation within the system
- cascading outages
- voltage and transient instability
 violation of applicable reliability performance criteria (for example in the planning horizon as specified in Table 1: Transmission System Standards-Normal and Contingency Conditions, page 13 of NERC Planning Standards.
- [damage to equipment, or safety hazards to the public or employees.]
5. This SAR shold be split into 3 individual SARS- Facility Ratings, Operating Limits, and Transfer Capability

-Operating Limits and Transfer Capability are often driven by local reliability rules which are

more stringent and should be includede

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Edward Stoneburg	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Illinois Power Co	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	217 362 6363	⊠ LSEs	Users
E-mail		☐ TDUs	☐ Small Electricity Users
power.com	edward_stoneburg@illinois	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that	this SAR is ready to be	developed into a standar	d?
☐ Yes			
⊠ No			
Comments			

If you answer no, please identify specifically what needs to be changed:

In its comments on the 2nd Posting of this SAR Illinois Power identified the need to change the bullet reading "- cascading outages" to "- outages cascading outside of a transmission owner's system or group of cooperating transmission owners' systems".

This change was proposed because IP believes transmission owners and providers should be able to manage the risk on their respective system. Outages that only affect the transmission owner or the group of cooperating transmission owners and their respective customers should be managed by that/those transmission owner/owners.

In response to that comment the SARDT said:

The SARDT believes that industry consensus is that cascading outages are not acceptable reliability performance. There are users of the transmission system that will be impacted, even if transmission owners can 'contain' the cascading. Regardless of agreements reached by transmission owners, a NERC standard cannot permit cascading outages. Footnote c in Table 1 of existing Planning Standard IA S1-S4 defines Cascading as "the uncontrolled successive loss of system elements triggered by an incident at any location. Cascading results in widespread service interruption which cannot be restrained from sequentially spreading beyond an area predetermined by appropriate studies."

Illinois Power still believes such a change is needed. Our concern is that simply saying "cascading outages" could lead to a "reliability at any cost" standard. We are, for some parties, arguing semantics, but for others we are arguing over level of redundancy and who pays for it. One way to look at the problem with the SAR is there is no universal definition or understanding of "cascading". Current system design and operation allows that some load gets interrupted for some outages, therefore, the "standard" should not automatically impose requirements as if this were "unacceptable". Nor should the standard impose a level of reliability for which the impacted parties do not want to pay. Illinois Power believes simply saying cascading outages may lead to a standard that does that.

For example: A radial load, where load gets interrupted for a single contingency to protect underlying subtransmission which would otherwise "cascade," should not violate a standard.

Similarly, with two or more lines, if the design and plan is to let some load trip (this trip is in itself, some stakeholders would say, a "cascade", especially if it is "their own" load) for some potential contingencies, but the result is a well contained and quantifiable outage that should not fit into a the definition of "cascade". In addition, the potential that a next contingency could trigger one of these situations should not mean the load should be shed in advance in anticipation of a potential contingency.

Finally, IP believes that its proposal is totally consistent with the Planning Standard definition referenced with by the SARDT. Illinois Power is NOT proposing to allow "uncontrolled loss of elements" which cannot be restrained from sequentially spreading beyond an area predetermined by appropriate studies and practices. IP is saying it and it's stakeholders should be able to define the predetermined area.

One other suggested change is to include "failure modes" in the consideration in the list in the third paragraph of the definition of "Equipment Rating". For example, if a manual switch rated at 164 MVA would fail in the closed position and would not cause disconnection up to a higher MVA

amount, the owner should have the option of disregarding the switch rating.

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Joe Egloff	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Tri-State Generation and	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Transmission Association, Inc.		LSEs	Users
Telephone	303.452.6111	□ TDUs	☐ Small Electricity Users
E-mail	jegloff@tristategt.org	☑ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes	
□ No	
Comments	
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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Frank McElvain	☑ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization Transmission A	Tri-State Generation and	☐ RTOs, ISOs, RRCs	☐ Large Electricity End Users
		LSES	USCIS
Telephone	303.452.6111	☐ TDUs	☐ Small Electricity Users
E-mail	fmcelvain@tristategt.org	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

The "Determine Facility Ratings, Operating Limits, and Transfer Capabilities" SAR was posted for a 30-day public comment period from April 2 through May 3, 2002. On July 2, 2002 the Standards Authorization Committee (SAC) appointed a team to address the industry's comments submitted in response to the following questions asked about this SAR:

- Is there a reliability-related need for an Organization Standard to be developed on this topic?
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- The scope of the SAR should be expanded to include:
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- Other comments:

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- 1. The SAR has been re-organized to add greater clarity in response to numerous industry comments.
- 2. The SAR now requires that those responsible for determining facility ratings document the methodology they use in this effort and make the ratings methodology document available for review.
- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard? ☐ Yes ☐ No Comments
If you answer no, please identify specifically what needs to be changed:
Facility Ratings
Remove the term "liabilities" from the Facility Ratings standard. It is neither the responsibility of NERC nor the SAR drafting team to assign liability.
System Operating Limits and Transfer Capability
The classification of System Operating Lmits and Transfer Capabilities is redundant. One reads the same paragraphs except where the term, "System Operating Limits", is replaced with, "Transfer Capabilities". I have interpreted the difference in these terms to be a non-simultaneous capability versus a simultaneous capability (or a collection of operating limits). However, this is not clear in the definitions and the SAR itself.
I also second the suggestion of the WECC Reliability Subcommittee that this and other SARs utilize definitions that link terms to accepted terminology, such as Total Transfer Capability, Rated Transfer Capability or Operating Transfer Capability. These are terms on which the industry has become educated and they have a high degree of acceptance.

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Kirit Shah	□ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	Ameren Services	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	314-554-3542	LSEs	Users
E-mail	kshah@ameren.com	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard? Yes
⊠ No
Comments
If you answer no, please identify specifically what needs to be changed:
We would like to commend SARDT for their time and effort in compiling the version 3 of this SAR and giving us opportunity to provide a 3 rd round of comments. This version has been reorganized and has incorporated several suggestions based on the 2 nd round of comments. However, we still believe that this SAR is not ready to be developed into a standard because
1. We still believe that this SAR should be broken into three separate SARs as follows:
A. Facility Ratings,
B. Development of Operating Limits, and
C. Transfer Capability (including ATC).
Our reasons for this position again are that (a) the Facility Rating issue by itself is very important and involve and ratings are foundation of almost every Planning and Operating tasks that SAR should be developed to cover it by itself (b) as the SARDT concluded that other items we mentioned earlier are input in determination of Operating Limits and Transfer Capabilties, we submit to the SARDT that facility ratings are also input to determination of these quantities, and (c) Transfer Capability SAR should include ATC issues, as ATC is nothing but calculation of transfer capability with some different considerations. We believe that SARDT has already agreed to have a separate SAR for ATC, which should include Transfer Capability issue discussed here to make it more complete.
In addition to the above, the following are some general comments:
2. From Planning perspective, transfer capability is a mean not an end for a robust and reliable planning of the transmission system. Transfer capability is used as a proxy to gauge strength of the transmission system. As such a trend over a period of time or a range of transfer capabilities are developed considering several scenarios or sensitivities. These trends and/or ranges are more

reliability margins as described on page SAR-6.

3. On page SAR-6, second paragraph, line 1, states that "Use of the system shall not exceed the transfer capability". This is vague, as which transfer capability (some single value of FCITC, nonsimultaneous, or simultaneous?) are we talking about? How does this concept apply in planning? Do we need to say "Planned use of the system"?

valuable input in the planning process rather than determination of a single value and use of

- 4. On page SAR-1, description of System Operating Limits and Transfer Capabilities include "predefined" system reliability performance criteria while at other places in the document (page SAR-6, bullet 6) the phrase "applicable" is used.
- 5. If system is in an operating state beyond which it was planned for (say beyond first or second contingency state) due to ice storm or any other such condition, these limits may have to be exceeded to continue to serve load. The standard should recognize these extreme but credible conditions.
 - 6. The reliability margin concept in terms of CBM and TRM is mainly used in ATC calculations.

What types of reliability margin are proposed in here for determination of System Operating Limits and Transfer Capability? Would they be different in Planning and in Operation?

- 7. On page SAR-7, first line, Availability may get confused with ATC. Either Availability word should not be used or replaced with Adequate.
- 8. In discussion of Transfer Capability use of Operating Guides including redispatch option, should be included.
 - 9. On page SAR-6, first bullet, should include load distribution also.

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Toni L. Timberman		☐ Brokers, Aggregators, and Marketers
Organization Administration	Bonneville Power	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	(360)418-2327	_	
	(866)::0 202:	☐ TDUs	☐ Small Electricity Users
E-mail	tltimberman@bpa.gov	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard?
□ Yes □ No
Comments There has been a great deal of effort expended in developing this SAR to this point but because the scope of the SDT effort is specifically limited to what is defined in the SAR, there are critical clarifications needed before it is ready to be passed on to the SDT.
If you answer no, please identify specifically what needs to be changed:
Detailed Description: Please add a disclaimer that some entities only calculate System Operating Limits rather than both System Operating Limits and Transfer Capability. We want to avoid the inadvertent requirement that all entities are required to calculate Transfer Capability, even if it is not used in operating their system. The distinction between the two is still fuzzy and we would appreciate further effort in the definitions.
Facility Ratings:
(first paragraph after Definitions): please include requirement that along with the facility ratings, the conditions for which those ratings were calculated be supplied. This would avoid the inadvertent use of a 20C rating for a 30C study, or use of a steady state transformer rating when a 4-hour rating could safely be used.
(top of page 5):what is meant by "transient" facility ratings? does this mean emergency ratings? need more details on what is required or expected by this statement.
System Operating Limits:
1. Brief Description, System Operating Limits: We believe the reference to "power transfer limits (both thermal and stability)" could be improved by including "voltage" in addition to thermal and stability: to read "power transfer limits (thermal, voltage, and stability)". We use voltage-based transfer limits where a MW-transfer limit is a proxy for real-time voltage limitations, reactive constraints, or voltage stability limits. As currently stated, the SAR only addresses pure (equipment rating based) voltage limitations.
(definition): the parenthetical statement that "Stability and voltage limits will be reflected as a permissible loading level" is confusing. Is this not true for thermal limits as well?
(second paragraph): Clarification must be given to determine the prevailing operating limit in the event of a difference in limits calculated by the RA vs the PA, or in limits calculated between two different RA's. For example, if a path is between regions, and both regions calculate Operating Limits for their part of the path, which set of limits is respected? In our area, limits are calculated by the two RA's for their respective part of the path and the lower of the two limits is used as the Operating Limit for the path.
Regarding calculation of System Operating Limits and Transfer Capability: please add a statement to the effect that "This Standard does not require the development or use of a single methodology or study tool for the calculation of System Operating Limits or Transfer Capability. However, the methodology used to determine System Operating Limits or Transfer Capability must be available to NERC, NERC Regions or their successors upon request." (or, based on need-to-know, similar to requirement to provide methodology used to calculate ratings)
We recommend that the following statement "The equipment ratings determined by generator

and transmission owners must not be violated by the entities responsible for the Reliability Authority, Transmission Operator and Planning Authority functions in planning and operating the bulk electric system." be modified to the following: "The equipment ratings determined by generator

and transmission owners must not be violated when calculating System Operating Limits and Transfer Capabilities." This removes the conflict with the "Operate Within Limits" SAR.

Regarding Contingency Criteria: Our previous comment was "Contingency Criteria is not defined. This should instead say Reliability Criteria." The response from the SDT was "Considerations: The contingency criteria are those included in Table 1 of existing Planning Standards I A S1-4, or their successors." This clarification (definition?) was not carried through into the revision of the SAR. If the Planning Standards are to be used for developing System Operating Limits and Transfer Capabilities then it must be stated in the SAR so that it may be commented on rather than being left to the readers imagination. We would suggest that the Planning Standards may be used when determining limits and capabilities for Planning purposes, but that a different set of standards may be more appropriately used for calculating limits for the Operating timeframe. Also, the response to another question regarding this criteria included the statement "Because all areas of NERC are not susceptible to the referenced criteria," . If this is true, then Contingency Criteria must be specifically defined rather than just referencing the Planning Standards.

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Bob Pierce		☐ Brokers, Aggregators, and Marketers
Organization	Duke Power	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	704-373-6480	□ LSEs	Users
E-mail	rwpierce@duke-	☐ TDUs	☐ Small Electricity Users
energy.com	·	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ☐ Yes
⊠ No
Comments The SAR, as proposed, addresses 3 topics that are complex and different enough to require development of 3 separate standards. The Transfer Capability topic should be addressed jointly by NAESB and NERC.
Facility ratings are based on equipment characteristics and assumptions about their operating modes and environment. Facility ratings methods are well established and are based on a generally accepted set of assumptions. Creating a standard based on reliability principles alone is feasible and should be done by NERC. The SAR presently provides acceptable guidance for development of such a standard.
System operating limits are derived using analytical methods that typically result in limits based on voltage or stability issues (thermal limits are relatively straightforward). The analytical methods rely on assumptions that will need to have a clear reliability basis and some level of consistency. Guidance should be provided on the number/types of contingencies evaluated, allowance for redispatch, implementation of operating guides or procedures, assumed base system conditions, reliability margins Because of the complexity of the subject and analytical difference from establishing facility ratings, a separate standard should be developed.
If you answer no, please identify specifically what needs to be changed:
First Contingency Incremental Transfer Capability (FCITC) is the basic calculation normally used to determine transfer capability. FCITC calculations can be impacted by the assumed source and sink designations, contingencies examined, required participation factors, allowance for operating guides, as well as other assumptions employed in the base model. Affecting the result of FCITC calculations will have an obvious impact on the ultimate calculation of ATC values used by the market. Because transfer capability calculation has market implications, the procedures used should be addressed in into the NAESB and NEBC.

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Edward C. Stein	☐ Trans Owners	□ Brokers, Aggregators, and Marketers
Organization	FirstEnergy Solutions	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	330-315-7480	LSEs	Users
E-mail		☐ TDUs	☐ Small Electricity Users
m	steine@firstenergycorp.co	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard?
☐ Yes
⊠ No
Comments
If you answer no, please identify specifically what needs to be changed:
FirstEnergy Solutions believes that this SAR is not ready to be developed into a standard. This proposed SAR is combining multiple and independent subjects into one SAR. Facility Ratings, System Operating Limits and Transfer Capability should be addressed individually. Discussions of Facility Ratings and System Operating Limits may be able to be addressed satisfactorily in one SAR.
The subject of Transfer Capability needs its own distinct SAR. The discussion on Transfer Capability addresses the application of the determined ratings in transfer capability analysis. Transfer Capability also needs to include discussion of ATC and the related margins (CBM and TRM), which emphasizes the importance of keeping this separate. A Transfer Capability SAR should address the appropriate application of various normal and emergency ratings (one hour, four hour, long term) in determining operating limits, and should consider the appropriate application of defined operating procedures. In addition, a Transfer Capability SAR should consider the coordination of the use of the various normal and emergency ratings and defined operating procedures with the implementation of various TLR levels.
The following is my own personal comments which should help you why I voted no.
It took NERC (NAPSIC) over 50 years to standardize the timing and ramping of schedule changes. Schedule change ramps began at various times; 10 minutes before the hour, 5 minutes before the hour and on the hour. NERC's solution to this reliability problem was to have both the sending and receiving parties agree on the start times and duration of the ramp. This somewhat worked due to the limited number of scheduling entities. As the number of scheduling entities increased, reliability problems began to increase. Even then, it took the industry years to standardize the way schedule changes were handled.
This SAR needs to be unbundled into three SARs; ratings, operating limits and ATCs. This will allow the writers to concentrate on one issue. As an example, much work needs to be in the ratings standards. Currently The Transmission Owner (TO) sets the rating based on their own criteria. The RTO/ISO accepts this rating with little or no review of rating. One TO may set the line limit based on "0" sag in order to minimize vegetation management costs while another TO sets the line limit based on a 1/2 hour rating with maximum sag. This will create abnormalities in the market resulting in high congestion costs and inefficient markets. When developing the ratings standard the TO needs some flexibility in setting the rating in cases where there is a physical problem such as transformer gassing.
Operating limits generally fall into three categories - thermal, voltage and stability. Each has a different time line for required actions which should result into different ATC's calculation. Having three separate SAR's goes a long way in standardizing the NERC process. NERC has already taken a single reliability function and divided it into three authorities; Scheduling, Balancing and

Reliability. It should be an easy step in taking one complicated SAR and dividing it into 3 easily

managed SAR's.

In addition of having three separate SAR's the writing teams can devote more effort in getting the SAR's correct which will go a long way in achieving an efficient market as envisioned by FERC SMD.

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Albert DiCaprio	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	MAAC	⊠ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	610-666-8854	□ LSEs	Users
E-mail	dicapram@pjm.com	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard?
☐ Yes
⊠ No
Comments
If you answer no, please identify specifically what needs to be changed:
The SAR itself would have been acceptable in its current form. The MAAC issue is with responses provided to the commenters in version 2 but not highlighted in version 3. The SAR DT is urged to make sure that there is a public consensus on the following responses that they provided in Version 2"
In the general question (#9 of ver 2) of "Should avoidance of equipment damage be added to the purpose of this SAR?" Response Yes -29 No- 24.
Obviously no consensus, yet the DT responses: "this is an expected consideration in the determination of facility ratings when facilities are rated by the owner."
To an AMEREN comment on this question "What about thermal overloads? Are they ok?"
The DT Response: "Thermal ratings are considered facility ratings that must not be violated"
That response indicates that the DT envisions that NERC will enforce every overload of every thermal limit whether or not that limit affects wide-area relaibility (where wide area reliability is defined in the SAR Purpose as "cascading outages,"). The SAR Purpose does not seem to mesh with that response. If the DT believes that the SAR will include such a standard, then they are asked to pose that question to the public to ensure that everyone agrees with that interpretation.
The DT then responds to a NY-ISO comment"any voltage limit can determine a system operating limit"
This response focuses on system (interegional?) limits. Is that what the DT meant in its response to AMEREN? Did the DT mean ALL ratings or just all ratings that are defined in the system limit itself?
MAAC asks that the SAR DT be clear and precise on this matter: Does this SAR require NERC-enforced compliance on EVERY limit on every facility? or Does this SAR require NERC-enforced compliance on just system security limits (as defined in the SAR Puropose)?
MAAC would also ask that the NERC OC's Operating Limit Definition Task Force help in providing the clarification (if any is deemed necessary) in the SAR sent on to the Standards Drafting Team for this SAR request.

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Dilip Mahendra		☐ Brokers, Aggregators, and Marketers
Organization	SMUD	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	916-732-6180	□ LSEs	Users
E-mail	dmahend@smud.org	☐ TDUs	☐ Small Electricity Users
	C	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes
□ No
Comments Given that the Functional Model is still being developed, this SAR may need to be updated to incorporate as appropriate the pertinent elements of the new Functional Model after it is approved. For example, Page 24 of Draft 5 of the Functional Model which has been posted for comments states (under Planning Authority):
"Calculates operating and transfer limits. The Planning Authority calculates transfer capabilities and operating limits based on the transmission and resource plans. These operating limits are provided to the Reliability Authority and Transmission Operator(s) for their use in developing next-day and next-hour operating limits."
As written in the draft Function Model, the term "operating limit" appears to mean day ahead and hour ahead limits, wheras in the SAR, "System Operating Limit" is intended to cover both real time, day ahead, hour ahead and long term planning time frames. Alignment of the definitions is necessary to avoid confusion later on.
If you answer no, please identify specifically what needs to be changed:

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Ed Riley	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	California ISO	⊠ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	(916) 351-4463	│	Users
E-mail	smccoy@caiso.com	☐ TDUs	☐ Small Electricity Users
	·	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

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- Other comments:

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- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard?
⊠ No
Comments The California ISO believes that substantial progress has been made in development of this SAR. However, we still have several questions and/or concerns that we feel need to be addressed.
1) The definition of "Facility" may still be inadequate for some situations in the Western Interconnection. As defined, a Facility would or could be composed of several pieces of individual equipment. An example may be equipment, such as circuit breakers, disconnects, wave traps and conductor, could make up a facility called a transmission line. In the Western Interconnection we have numerous situations where several transmission lines make up a "Transfer Path". These Transfer Paths are usually rated on a stability basis which normally would be less than the thermal limits of each individual line. We believe the ratings of Transfer Paths should be covered by this SAR.
2) On page five in the definition of System Operating Limit the term "interface" is used. It is unclear as to the intent of this word. Is it trying to identify this SAR as only applicable to points of interconnection between Control Areas? We believe this SAR should be applicable to the entire Bulk Power System regardless of whether it is inter or intra in relationship to Control Areas. Also, in this definition we are still concerned about how the concept of "operational experience" will be interpreted and implemented. It still appears to us as too vague a term.
3) On page three under the section Applicable Reliability Principles we believe that Box 7 should also be checked.
4)On page seven in the Regional Differences section WSCC should be changed to WECC.
5) On page 6 in the Possible Measures section, in the section on System Operating Limits, we believe the following measure may also serve the industry well. "Maintain a list of critical facility rating. Also, for the past three years provide the date of all changes to a critical facility and the associated rating change."
6) We believe that there should be specific recognition of the WECC operating limit changes that take place in real time based on established nomograms or operating procedures between the parties in the interconnection.
If you answer no, please identify specifically what needs to be changed:

See comments 1, 2 and 6 above.

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Joanne K. Borrell	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	FirstEnergy Solutions	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	330-315-6857	⊠ LSEs	Users
E-mail	jkborrell@fes.com	☐ TDUs	☐ Small Electricity Users
	•	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ☐ Yes ☐ No Comments
If you answer no, please identify specifically what needs to be changed:
FirstEnergy Solutions believes that this SAR is not ready to be developed into a standard. This proposed SAR is combining multiple and independent subjects into one SAR. Facility Ratings, System Operating Limits and Transfer Capability should be addressed individually. Discussions of Facility Ratings and System Operating Limits may be able to be addressed satisfactorily in one SAR.
The subject of Transfer Capability needs its own distinct SAR. The discussion on Transfer Capability addresses the application of the determined ratings in transfer capability analysis. Transfer Capability also needs to include discussion of ATC and the related margins (CBM and TRM), which emphasizes the importance of keeping this separate. A Transfer Capability SAR should address the appropriate application of various normal and emergency ratings (one hour, four hour, long term) in determining operating limits, and should consider the appropriate application of defined operating procedures. In addition, a Transfer Capability SAR should consider the coordination of the use of the various normal and emergency ratings and defined operating procedures with the implementation of various TLR levels.

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Robert Wolaver	☐ Trans Owners	□ Brokers, Aggregators, and Marketers
Organization	Western Electricity	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Coordinating C Subcommittee	ouncil Reliability	LSEs	Users
Telephone	303.452.6111	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and
E-mail	RWolaver@Tristategt.org		Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard?
⊠ No
Comments I believe there are a few changes necessary before this SAR becomes a standard.
If you answer no, please identify specifically what needs to be changed:
The discussion of liability should be deleted. Assignment of liability is outside the scope of NERC's role.
The use of the term "System Operating Limits" is not clear. Clear connections to existing terms such as ATC, and TTC should be established.

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Mark Henry	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	ERCOT Compliance	⊠ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	512-225-7021	LSEs	Users
E-mail	mhenry@ercot.com	☐ TDUs	☐ Small Electricity Users
	·	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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Do you believe that this SAR is ready to be developed into a standard?
⊠ Yes
□ No
Comments
If you answer no, please identify specifically what needs to be changed:

SAR Comment Form for 3rd Posting of the Determine Facility Ratings, Operating Limits, and Transfer Capabilities SAR

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SAR Commenter Information		Which Industry Segment do you represent?	
	FRCC Operating e list at end of this comment	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
OC by Linda C	ed on behalf of the FRCC ampbell	RTOs, ISOs, RRCs	☐ Large Electricity End Users
Organization Committee	FRCC Operating	⊠ TDUs	☐ Small Electricity Users
Telephone	813-289-5644	⊠ Generators	☐ Federal, State, and Provincial Regulatory or other
E-mail	lcampbell@frcc.cm		Government Entities

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Most of the respondents indicated that there is a reliability-related need for a standard to be developed to address these issues. Comments were received from many different sources, including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant and revised the SAR to conform with the changes that were technically sound and appeared to be requested by or to represent a consensus of the participants.

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SAR Comment Form for 3rd Posting of the Determine Facility Ratings, Operating Limits, and Transfer Capabilities SAR

Do you believe that this SAR is ready to be developed into a standard? Yes
⊠ No
Comments In the earlier postings, there were numerous comments stating a belief that this SAR should be separated into 3 SARs. The SAR drafting team did not think that was appropriate since all three items are related.
The FRCC OC supports the suggestions of earlier commenters and recommends that the SAR drafting team reconsider this. The FRCC OC agrees that the items are related; however, that does not necessitate they be all lumped into one standard. In fact, page SAR-7 already identifies other related SARs, so it would seem appropriate to separate these and correlate them through that table. There needs to be a clear understanding of the three issues and putting them together adds confustion, not clarity.
Each of the sections will have much more detail once the standard drafting begins so we believe it makes more sense to separate them now, and show they are connected through the table.
If you answer no, please identify specifically what needs to be changed:
The following are some comments on specific areas of the current SAR,
We believe that Reliability Principle 7 would also apply since a System Operating Limit and Transfer Capability could impact a wide area.
In the Facility Ratings section, it states that this information is to be supplied to the RA, TOP and PA in a "timely manner". There should be more definition of what a timely manner is. It also states that the documentation of the methodology should be made available to NERC, NERC Regions, the RA or PA upon request. We believe that there should be a "need to know" basis for supplying this information. It also states that equipment owners must make facility ratings available in a pre-defined form, but that form is not identified.
In the System Operating Limits section, it states that only the RA and PA will establish System Operating Limits. We also believe the transmission operator should be involved in this determination.
In the Transfer Capability section, the third paragraph provides examples of reliability margins. There is no mention of either first contingency or single worst contingency as being reflected. We believe these should also be considered in the determination of Transfer Capability.
In reviewing previous comments, there were several mentions of Regional Differences, but none were identified on the table on page SAR-7. We do understand many were general in nature, but NPCC and WSCC identified specific differences. Perhaps the entire difference does not need to be spelled out in the SAR, but at a minimum the table should indicate that those regions do in fact have more stringent requirements.

The following is a list of the FRCC OC members and guests that submit this comment form. This comment form was approved by all OC members. The SAR drafting team or requester should consider this in weighting the comments submitted.

SAR Comment Form for 3rd Posting of the Determine Facility Ratings, Operating Limits, and Transfer Capabilities SAR

Transmission Owners

Chuck Harper, Progress Energy – Florida Eric Grant – Progress Energy – Florida Bill Slater – Progress Energy - Florida Marty Mennes – Florida Power & Light Company Beth Young – Tampa Electric Company Jose Quintas – Tampa Electric Company

Load Serving Entity

Mark Bennett – Gainesville Regional Utilities
Ted Hobson – JEA
Richard Gilbert – Lakeland Electric
Paul Shipps – Lakeland Electric
Tom Calabro – Orlando Utilities Commission
Rusty Foster – City of Tallahassee
Robert Miller – Kissimmee Utility Authority
Greg Woessner –Kissimmee Utility Authority
Bob Remley – Clay Electric Cooperative
Steve Treece – Ft. Pierce Utilities Authority
Joe Roos – Ocala Electric Utility
Tim Beyrle – Utilities Commission of New Smyrna Beach
John Giddens – Reedy Creek Energy Services

Generator

Gary Jackson – Calpine Corporation Douglas Bullock – Indiantown Cogeneration, L.P. John Twitchell – Mirant Americas Development Mike Antonell – Reliant Energy Services

Transmission Dependent Utilities

Steve Wallace – Seminole Electric Cooperative Joe Welborn – Seminole Electric Cooperative

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Peter Mackin	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	WECC Technical Studies	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Subcommittee		LSEs	Users
Telephone	916-631-3200	□ TDUs	☐ Small Electricity Users
E-mail	pmackin@navigantconsulti	☐ Generators	☐ Federal, State, and Provincial Regulatory or other
ng.com	pcom carigantoonouiti		Government Entities

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Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes
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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Peter Burke		☐ Brokers, Aggregators, and Marketers
Organization Company	American Transmission	☐ RTOs, ISOs, RRCs ☐ LSEs	☐ Large Electricity End Users
Telephone	262-506-6863	☐ TDUs	☐ Small Electricity Users
E-mail	PBurke@atcllc.com	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Chifong Thomas		☐ Brokers, Aggregators, and Marketers
Organization Company	Pacific Gas and Electric	☐ RTOs, ISOs, RRCs ☐ LSEs	☐ Large Electricity End Users
Telephone	415-973-7646	☐ TDUs	☐ Small Electricity Users
E-mail	CLT7@PGE.COM	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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If you answer no, please identify specifically what needs to be changed:

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E-mail this form between December 13, 2002 – January 31, 2003, to: sarcomm@nerc.com with "SAR Comments" in the subject line.

Please review the changes made to the SAR and answer the questions in the yellow boxes.

If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Roger Champagne	□ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization		☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Hydro-Québec TransÉnergie		□ LSEs	Users
Telephone	514-289-2211 (2766)	☐ TDUs	☐ Small Electricity Users
E-mail		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities
champagne.roger.2@hydro.qc.ca			

Background Information:

The "Determine Facility Ratings, Operating Limits, and Transfer Capabilities" SAR was posted for a 30-day public comment period from April 2 through May 3, 2002. On July 2, 2002 the Standards Authorization Committee (SAC) appointed a team to address the industry's comments submitted in response to the following questions asked about this SAR:

- Is there a reliability-related need for an Organization Standard to be developed on this topic?
- The scope of the SAR is fine as it is
- The scope of the SAR should be expanded to include:
- The scope of the SAR should be reduced to eliminate:
- Other comments:

Most of the respondents indicated that there is a reliability-related need for a standard to be developed to address these issues. Comments were received from many different sources,

including individuals, small and large utilities, groups of utilities, and Regional Councils. The SAR DT considered the comments submitted by each industry participant and revised the SAR to conform with the changes that were technically sound and appeared to be requested by or to represent a consensus of the participants.

The SAR was revised in response to industry comments and re-posted for comment from September 23, 2002 – October 22. These comments were reviewed and considered in developing the version of the SAR currently posted for comment.

The comments and the SAR Drafting Team's consideration of those comments and the original and revised SARs are posted on the NERC Web Site at http://www.nerc.com/~filez/sar-approved.html

Major changes since the September 23 version include:

- 1. The SAR has been re-organized to add greater clarity in response to numerous industry comments.
- 2. The SAR now requires that those responsible for determining facility ratings document the methodology they use in this effort and make the ratings methodology document available for review.
- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard?
□ No
Comments Hydro-Québec, as a member of NPCC, has a more stringent Regional Difference-
Although the existing NERC BOT approved version of the Process Manual allows for more stringent Regional Differences, Hydro-Québec, along with NPCC, would like recognition of this to appear in the standard even though it is not "Interconnection Wide". This will promote industry awareness and ultimate acceptance of the existence and validity of our more stringent criteria which may become increasingly important if reliability legislation passes as it pertains to the enforcement of these yet to be developed standards.
We would like to submit the following for DT consideration;
1) In the Brief Description of Facility Rating section of the SAR itself, it should include the term "applicable" and that we describe "applicable" to include such examples as seasonal, normal, short and long term ratings as well as emergency ratings, etc. This precision shall be adressed in the detailed description as well. This ultimately is attaching a time period to facility ratings.
2) Operating Limits and TTCs are a function of the NPCC criteria and NPCC has
more stringent contingency criteria than some other Regions/Areas, i.e.
NPCC Normal and Emergency Transfer Criteria, Document A-2 which considers;
a) "A permanent phase to ground fault on any transmission circuit, transformer or bus section with delayed fault clearing.
b) "Simultaneous permanent phase to ground faults on different phases of each of two adjacent transmission circuits on a multiple circuit tower with normal fault clearing."
Also these are considered when performing "stability assessments" as stated in the criteria from Section 5.1.
c) Power transfer limits (both thermal and stability)" should include "voltage" in addition to thermal and stability: to read "power transfer limits (thermal, voltage, and stability)". Areas within NPCC (and others, including PJM) use voltage-based MW transfer limits that represent real-time voltage limitations (pre- to post-contingency voltage drop), reactive resource constraints, or voltage stability (voltage collapse) limits. The SAR presently only addresses pure (equipment rating based) voltage limitations.
3) The Québec Area within NPCC has asynchronous ties with the Eastern Interconnection. This allows direct control of the transfers on the ties and modifies significantly the methodology for determining Transfer Capabilities. The development of RS for Transfer Capabilities should take asynchronous ties into consideration.
Furthermore Québec Area within NPCC has and should be allowed to maintain more stringent criteria than NPCC and NERC.
4) Due consideration is also given to operating under High Risk Conditions, i.e. unusual weather. (as stated in A-2 Section 6.4)
If you answer no, please identify specifically what needs to be changed:
Inclusion of the NPCC and members Regional Difference in the SAR "Regional Differences"

Section as presented in Bullet 2 and 3 above.

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Please review the changes made to the SAR and answer the questions in the yellow boxes.

If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Andrew Wilcox	□ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	NB Power	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	(506) 472-5118	□ LSEs	Users
E-mail	awilcox@nbpower.com	☐ TDUs	☐ Small Electricity Users
	, i	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

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- Is there a reliability-related need for an Organization Standard to be developed on this topic?
- The scope of the SAR is fine as it is
- The scope of the SAR should be expanded to include:
- The scope of the SAR should be reduced to eliminate:
- Other comments:

DT considered the comments submitted by each industry participant and revised the SAR to conform with the changes that were technically sound and appeared to be requested by or to represent a consensus of the participants.

The SAR was revised in response to industry comments and re-posted for comment from September 23, 2002 – October 22. These comments were reviewed and considered in developing the version of the SAR currently posted for comment.

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- 2. The SAR now requires that those responsible for determining facility ratings document the methodology they use in this effort and make the ratings methodology document available for review.
- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard?
⊠ Yes
□ No
Comments
If you answer no, please identify specifically what needs to be changed:

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SAR Commenter Information		Which Industry Segment do you represent?	
Name	Robert W Waldele	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	NYISO	⊠ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	518-356-6231	□ LSEs	Users
E-mail	rwaldele@nyiso.com	☐ TDUs	☐ Small Electricity Users
	·	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

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- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard? ⊠ Yes
□ No
Comments
NYISO believes that the SAR is ready for standard development, but believes that it can be improved by considering the following comments on the definitions:
Facility Ratings:
Equipment ratings contains a reference to "short-circuit and transient conditions" but there is no other reference to either short-circuit study, limitations or fault-duty analysis in the SAR. The context is confusing as it is not clear if the "short-circuit" reference is to breaker interrupting rating, or "fault" as a disturbance event. Fault duty (or short-circuit limitations) should be a engineering design (i.e., planning) issue, and, as such, does NOT belong in the context of system operating limits and transfer capabilities. Equipment fault-duty ratings, and application of those ratings, need to be addressed separately to avoid confusion with traditional system transfer limitations. Reference to short-circuit should be removed.
System Operating Limits:
NYISO believes that the (several) references: "power transfer limits (both thermal and stability)" could be improved by including "voltage" in addition to thermal and stability: to read "power transfer limits (thermal, voltage, and stability)". NYISO, (and others, including PJM) use voltage-based MW transfer limits that represent real-time voltage limitations (pre- to post-contingency voltage drop), reactive resource constraints, or voltage stability (voltage collapse) limits. As currently worded, the SAR only addresses pure (equipment rating based) voltage limitations.
If you answer no, please identify specifically what needs to be changed:

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm @nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	A. RAlph Rufrano		☐ Brokers, Aggregators, and Marketers
Organization	New York Power Authority	☐ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	914-681-6265	□ LSEs	Users
E-mail	rufrano.r@nypa.gov	☐ TDUs	☐ Small Electricity Users
	j. C	☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

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- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard? ☐ Yes ☐ No
Comments NYPA basically in agreement with the comments provide by both Con Edison and NPCC regarding this SAR.
If you answer no, please identify specifically what needs to be changed:
NPCC has a more stringent Regional Differences which need to be recognized.(see NPCC comments)
1 - Where Facility Ratings are provided, specific details of limiting elements should not be required.
2 - In explaining the methodology utilized in determining ratings, specific algorithms should not be required, especially where proprietary data or software is used in making such determinations.
Specific Changes to sections shown below are in [] s;
3 -
The determination of System Operating Limits must address:
§ the applicable Contingency Criteria [, local reliability rules, environmental and safety regulations]
4 -
System Operating Limits, which will be applicable to flows through a specific transmission facility or interface in the system, must then provide a reasonable certainty that the following do not occur:
§ uncontrolled separation within the system
§
§
§
§ [damage to equipment, or safety hazards to the public or employees.]

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Daniel L. Stosick	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	ISO New England	⊠ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	413-535-4107	□ LSEs	Users
E-mail	dstosick@iso-ne.com	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

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- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard?
□ No
Comments
If you answer no, please identify specifically what needs to be changed:

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If you have questions, please call Maureen Long at 305-891-5497 or send a question to spm@nerc.com.

SAR Commenter Information		Which Industry Segment do you represent?	
Name	Guy V. Zito	☐ Trans Owners	☐ Brokers, Aggregators, and Marketers
Organization	NPCC	⊠ RTOs, ISOs, RRCs	☐ Large Electricity End
Telephone	212-840-1070	□ LSEs	Users
E-mail	gzito@npcc.org	☐ TDUs	☐ Small Electricity Users
		☐ Generators	☐ Federal, State, and Provincial Regulatory or other Government Entities

Background Information:

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- 3. Terminology has been explained in further detail to add clarity.

Do you believe that this SAR is ready to be developed into a standard?
□ No
Comments NPCC Has a more stringent Regional Difference-
Although the existing NERC BOT approved version of the Process Manual allows for more stringent Regional Differences NPCC would like recognition of this to appear in the standard even though it is not "Interconnection Wide". This will promote industry awareness and ultimate acceptance of the existence and validity of our more stringent criteria which may become increasingly important if reliability legislation passes as it pertains to the enforcement of these yet to be developed standards.
I would like to submit the following for DT consideration;
1) There may be a potential for some confusion with the existing wording "short circuit". Does this refer to a breaker interrupting rating or the fault current as a result of a disturbance event? Fault duty or short circuit limitation is more of an engineering or design issue and may be inappropriate to reference during the discussion of transfer capabilities and system operating limits.
2) In the Brief Description of Facility Rating section of the SAR itself, it should include the term "applicable" and that we describe "applicable" to include such examples as seasonal, normal, sho and long term ratings as well as emergency ratings, etc. This ultimately is attaching a time period to facility ratings
3) Operating Limits and TTCs are a function of the NPCC criteria and NPCC has
more stringent contingency criteria than some other Regions/Areas, i.e.
NPCC Normal and Emergency Transfer Criteria, Document A-2 which considers;
a) "A permanent phase to ground fault on any transmission circuit, transformer or bus section with delayed fault clearing.
b) "Simultaneous permanent phase to ground faults on different phases of each of two adjacent transmission circuits on a multiple circuit tower with normal fault clearing."
Also these are considered when performing "stability assessments" as stated in the criteria from Section 5.1.
c) Power transfer limits (both thermal and stability)" should include "voltage" in addition to thermal and stability: to read "power transfer limits (thermal, voltage, and stability)". Areas within NPCC (and others, including PJM) use voltage-based MW transfer limits that represent real-time voltage limitations (pre- to post-contingency voltage drop), reactive resource constraints, or voltage stability (voltage collapse) limits. The SAR presently only addresses pure (equipment rating based voltage limitations.
4) I have attached a copy of the NPCC A-2 Criteria for later consideration/use by the Standard Drafting Team.
5) The Québec Area within NPCC has asynchronous ties with the Eastern Interconnection. This allows direct control of the transfers on the ties and modifies significantly the methodology for determining Transfer Capabilities. The development of OS for Transfer Capabilities should take asynchronous ties into consideration.
6) Due consideration is also given to operating under High Risk Conditions, i.e. unusual

7) "Please see additional comments from some of our member systems that are being

weather. (as stated in A-2 Section 6.4)

forwarded to you in separate attachments". This will acknowledge our comments.

If you answer no, please identify specifically what needs to be changed:

Inclusion of the NPCC Regional Difference in the SAR "Regional Differences" Section to read as in Bullet 3 above.