Background

The Determine Facility Ratings Standard Drafting Team thanks all those who submitted comments with the posting of the Implementation Plan for the Determine Facility Ratings, System Operating Limits, and Transfer Capabilities Standards. After careful review and consideration of all comments received, the drafting team has modified the implementation plan and is asking the Standards Authorization Committee for approval to post the Standards and Implementation Plan for a 30-day review period, prior to ballot.

The Drafting Team posted its implementation plan for comment from June 1 through July 15, 2005. There were 17 sets of comments submitted, representing the opinions of 55 people in 33 different organizations.
The comments can be viewed in their original format at:

http://www.nerc.com/~filez/standards/Determine-Facility-Ratings.html

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Manager of Standards, Mark Ladrow at 609-452-8060 or at mark.ladrow@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.[1]

Most commenters supported the implementation plan – but there were some suggestions to extend the amount of time provided for entities to come into compliance with the requirements. Based on these comments, the drafting team will recommend that entities be fully compliant with FAC-008, FAC-010 and FAC-012 within 6 months of the BOT adoption – and that entities become fully compliant with FAC-009, FAC-011, and FAC-013 within 8 months of the BOT adoption.

There were no recommendations to expand the scope of Version 0 requirements that should be retired when the proposed standards are implemented. Stakeholders supported the recommended deletion of FAC-004 and FAC-005 and retirement of TOP-004 Requirement 6.1 and Requirement 6.5 coincident with the implementation of the proposed standards.

There were some commenters who made additional comments on the standards. Some commenters suggested that although the standards allow a wide range of ratings methodologies, because the phrase, 'normal and emergency' had been used in the predecessor standards, there was a preference for retaining this phrase. As a result of these comments, the Drafting Team added the following qualifying statement to Standard FAC-008 as Requirement 1.2.2

> The scope of Ratings addressed shall include, as a minimum, both Normal and Emergency Ratings.

There were two minority issues raised which the drafting team did not resolve:

1. A recommendation that FAC-010 be modified to require that SOLs be established to withstand all credible multiple contingencies rather than just those credible multiple contingencies identified by the associated Region

   The commenter would like the standard to be revised to require each RRO to conduct studies to determine which multiple contingencies are credible and to then require SOLs be developed for these contingencies. Current practices vary by Region, and most Regions already require that SOLs be developed for credible multiple contingencies. No Version 0 Standard requires the RRO

[1] The appeals process is in the Reliability Standards Process Manual: http://www.nerc.com/standards/newstandardsprocess.html.

to conduct these analyses specifically for the identification of credible multiple contingencies. Adding a requirement for the RRO to conduct these analyses and issue a list of credible multiple contingencies that require SOLs seemed to be going beyond the scope of the SAR.

2. A recommendation that FAC-008 be modified to require that all owners of jointly-owned equipment coordinate in such a manner that only one set of ratings is to be used for the jointly-owned equipment.

   The suggested language is from FAC-004 and the commenters are trying to ensure that the concepts supported in FAC-004 are not lost in the translation to FAC-008. While FAC-004 does require extensive coordination, that coordination may or may not be taking place today. To avoid situations where no rating can be issued because the joint owners can't agree on a single rating, the same end result is achieved by requiring each owner to establish its own rating and then requiring the users of the ratings to respect those ratings. If there are two different ratings for a single facility, then the most limiting rating is the one that will be respected in the development of SOLs and Transfer Capabilities. The drafting team thinks the end result is the same – but the requirement to coordinate has been eliminated.

1. Do you agree with deleting Reliability Standard FAC-004-0 coincident with the implementation of Reliability Standard FAC-008-1?

Yes:

Scott Moore SPP ORWG	Why can't FAC-008-1 become FAC-004-1 rather than deleting FAC-004-0 and creating a new FAC-008-1? It seems that the proposed changes will create confusing gaps in the Standards.
Response: The numbering of standards is determined by NERC Staff and is outside the control of the SDT.	
Marc Butts, Southern Company Services	Transmission and Generation owners need more time to develop the methodologies themselves, prior to compiling extensive documentation of those methodologies. Exceptions should be considered for older facilities where the desired documentation no longer exists or is not otherwise readily available.
Response: This does not seem to be a reason why FAC-004 should be deleted coincident with the adoption of FAC-008. Your comment will be considered with respect to providing additional time to become fully compliant with the standards.	
Ray Morella, First Energy	
John Horakh, MAAC	
Kham Vongkhamchanh SERC PSS	
Travis Besier, TXU	
Kenneth Goldsmith, Alliant Energy	
Roman Carter, Southern Company Generation	
William J. Smith, Allegheny Power	
Kathleen Davis, TVA	
Robert Coish, Manitoba Hydro	
Chifong Thomas, WECC TSS	

No:

Bill Bojorquez, NERC SES	Reliability Standard FAC-004-0_R1.4 requires that all owners of jointly-owned equipment coordinate in such a manner that only one set of ratings is to be used for the jointly-owned equipment. FAC-008-1 does not address this requirement specifically. The SES believes there should

	be only one set of ratings, agreed to by all owners, for any piece of jointly-owned equipment and as recommends the SDT include the language used in FAC-004-0_R1.4 in FAC-008-1. Also, FAC-004-0_R1.1 requires that rating methodologies be developed for both normal and emergency conditions; whereas, FAC-008-1 is not specific in requiring both normal and emergency ratings. The SES believes any requirement for developing rating methodologies should specifically require both normal and emergency conditions.
Response: FAC-008 does require that each facility owner's methodology address the rating of its jointly owned facilities, but does not require that there be a single rating developed for each jointly-owned facility. Limits are established based on Facility Ratings, and limits must be developed so they do not exceed the associated Facility Ratings – in a situation where joint owners come up with different facility ratings the more limiting rating is the rating that must be respected in establishing SOLs. FAC-008 was modified to specifically require that the methodology address both normal and emergency ratings.	
Peter Henderson, IESO	Element is a defined term in currently approved standards, while Facilities is defined in the proposed DFR standard. Element and facility are both used in the currently approved standards, and in some cases seemingly interchangeably. This creates ambiguity. New standards / revisions should be removing ambiguity not increasing it. This may mean opening up the currently approved standards for revision. The consequence is that the process may get bogged down As an example the approved standards re: IRO-002-0 Reliability Coordination – Facilities (R6) IRO-005 Reliability Coordination — Current Day Operations (R1)and IRO-003-0 Reliability Coordination – Wide-Area View (R1) mention the terminologies such as element and facilities. Looking at the definitions, it is confusing what is an element and what is a facility since Facility uses the term element yet they refer to similar equipment (ie transformer or line). DFR standard - Facility: A set of electrical equipment that operates as a single Bulk Electric System Element (e.g., a line, a generating plant, a shunt compensator, transformer, etc.) Approved Version 0 Glossary - Element: Any electrical device with terminals that may be connected to other electrical devices such as a generator, transformer, circuit breaker, bus section, or transmission line. An element may be comprised of one or more components. Is it proposed by DFR to delete Element? This action is not identified in the Implementation plan. We believe that these discrepancies may be a concern when DFR series of Standards comes to ballot as it raises the question on whether the currently approved standards require updating to reflect proper usage of Facility. Implementation plans must look at the whole scope of any change not just at what will be retired.
Response: The SAR for this standard used the term, 'Facility' not the term 'Element' and the SAR for this standard was initiated long before Version 0 was conceived. The use of the term, 'Facility Rating' is common to the industry – and was used in Version 0 Standards. To distinguish words that adhere to a NERC definition from those words that don't necessarily adhere to a NERC definition, defined terms are capitalized in Standards. If a Version 0 Standard does not include a capitalized version of the word, 'facility' then that standard does not necessarily adhere to the	

proposed definition for ‘Facility’.

The terms ‘Facility’ and ‘Element’ are both used in Version 0 standards – sometimes to mean the same thing and sometimes to mean very different things. Modifying all the Version 0 Standards that used the term ‘facility’ or ‘element’ seems outside the scope of what is needed. Since ‘Facility’ was not defined with Version 0, it is not capitalized in Version 0 Standards, and users should recognize that when the term ‘facility’ is not capitalized, it does not necessarily follow the NERC definition.

2. Do you agree with deleting Reliability Standard FAC-005-0 coincident with the implementation of Reliability Standard FAC-009-1?

Yes:

Scott Moore SPP ORWG	Why can't FAC-009-1 become FAC-005-1 rather than deleting FAC-005-0 and creating a new FAC-009-1? It seems that the proposed changes will create confusing gaps in the Standards.
Response: The numbering of standards is determined by NERC Staff and is outside the control of the SDT.	
Ray Morella, First Energy	
John Horakh, MAAC	
Kham Vongkhamchanh SERC PSS	
Travis Besier, TXU	
Kenneth Goldsmith, Alliant Energy	
Roman Carter, Southern Company Generation	
William J. Smith, Allegheny Power	
Kathleen Davis, TVA	
Robert Coish, Manitoba Hydro	
Chifong Thomas, WECC TSS	
Peter Henderson, IESO	
Marc Butts, Southern Company Services	

No:

Bill Bojorquez, NERC SES	The SES's previous comments regarding normal and emergency ratings apply to both FAC-009-1 and FAC-005-0 as well. The SES notes that the purpose as stated in FAC-009-1 is identical to the purpose stated in FAC-008-1. Although the standards are similar, they are in fact different and have different purposes. The SES recommends the Drafting Team revise the Purpose statement of FAC-009-1 to reflect the actual intent of the standard. The same comment can be applied to FAC-010 and FAC-011; as well as FAC-012 and FAC-013.

Response:

FAC-009 was modified to specifically require that the Facility Ratings Methodology address both normal and emergency ratings.

Although the purpose statements are the same for each cluster of standards, the purpose statements seem to be accepted by most stakeholders and the drafting team did not change them.

3. Do you agree with retiring TOP-004-0_R6.1 and TOP-004-0_R6.5 coincident with the implementation of FAC-011-1? If no, please comment.

Yes:

Roman Carter, Southern Company Generation	However, TOP-004-0 R4.1 states "Each Transmission Operator shall operate within the Interconnection Reliability Operating Limits (IROLs) and System Operating Limits (SOLs)." Our YES response assumes that if the Transmission Operator respects the established SOLs and IROLs no facility ratings will be exceeded that could cause equipment damage. Otherwise, it would be appropriate to add a statement to this effect to TOP-004-0 or have TOP-004-0 refer to FAC-010-1 requirement R1.2.
Response: If the TOP respects the established SOLs and IROLs no Facility Ratings will be exceeded. SOLs must respect the associated Facility Ratings.	
Ray Morella, First Energy	
John Horakh, MAAC	
Kham Vongkhamchanh SERC PSS	
Scott Moore SPP ORWG	
Travis Besier, TXU	
Kenneth Goldsmith, Alliant Energy	
William J. Smith, Allegheny Power	
Kathleen Davis, TVA	
Robert Coish, Manitoba Hydro	
Chifong Thomas, WECC TSS	
Bill Bojorquez, NERC SES	
Peter Henderson, IESO	
Marc Butts, Southern Company Services	

No:

(All commenters responded in the affirmative.)

4. Are you aware of any other Version 0 Requirements that should be retired or revised coincident with the set of Determine Facility Ratings Standards?

Yes:

Roger Champagne Hydro-Quebec	MOD-001-0 deals with TTC/ATC methodology and FAC-012-1 also deals with Transfer Capability methodology. Are these Transfer Capabilities the same as TTC/ATC? If they are the same, in the standards mentioned there is inconsistency about who would be responsible to develop the methodology.
Response: The Transfer Capabilities addressed in FAC-012 are not the same as 'Total Transfer Capabilities and Available Transfer Capabilities addressed in MOD-001. Here are the definitions for each of these terms: ATC: A measure of the transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses. ATC is defined as the Total Transfer Capability (TTC), less the Transmission Reliability Margin (TRM), less the sum of existing transmission commitments (which includes retail customer service) and the Capacity Benefit Margin (CBM). Transfer Capability: The measure of the ability of interconnected electric systems to move or transfer power in a reliable manner from one area to another over all transmission lines (or paths) between those areas under specified system conditions. The units of transfer capability are in terms of electric power, generally expressed in megawatts (MW). The transfer capability from "Area A" to "Area B" is not generally equal to the transfer capability from "Area B" to "Area A." Total Transfer Capability: The amount of electric power that can be reliably transferred over the interconnected transmission network. The SAR for this standard specifically stated that this standard would not deal with ATC or commercial quantities.	
Peter Henderson, IESO	FAC-010-1 R4.2 states "Following the single Contingencies identified in Reliability Standard FAC-010- 1_R4.2.1 through R4.2.3, the system shall demonstrate transient, dynamic and voltage stability; all Facilities shall be operating within their Facility Ratings and within their thermal, voltage and stability limits; and Cascading Outages or uncontrolled separation shall not occur." In FAC-010-1 R4.2.2, the requirements state that the "Loss of any generator, line, transformer, or shunt device without a Fault." must be observed for 4.2. This seems to exclude the loss of any single bus or an inadvertent breaker opening. Either of these are single contingencies that can remove additional BES equipment or reconfigure the BES to the point where the BES could be in a cascading situation. As such these losses must be observed. Was this exclusion deliberate or just overlooked? This is not consistent with TPL series of standards that state the "B" contingencies must be observed. The table highlights those requirements stated in FAC-010-1 R4.2.2 and 4.2.3, but goes on the state "Loss of an Element without a Fault".

	DFR Standards infers that the system should be operated to N-2. Specifically FAC-010-1 R4.2 which states: "Following the single Contingencies identified in Reliability Standard FAC-010-1_R4.2.1 through R4.2.3, the system shall demonstrate transient, dynamic and voltage stability; all Facilities shall be operating within their Facility Ratings and within their thermal, voltage and stability limits; and cascading outages or uncontrolled separation shall not occur." While we agree with everything up to "within their thermal," and after "and cascading", we have a concern that all facilities must be operated such that following a contingency they must still be respecting Voltage and Stability limits. The way it is written it infers that this must be respected as part of the outcome of the contingency (ie immediately after the contingency), we are really saying that we must be operating to N-2 Pre-contingency. In theory, current standards require action ASAP to get within voltage and stability limits, but allow "30 minutes" to be at this requirement following a contingency from a compliance perspective. The draft Standard FAC-010-1 does not include “the imposition of multiple element Category C” contingencies which are in the current TPL-002-0 standards. This should be included.

Response:

The exclusion of a single bus was deliberate – the intent of the Drafting Team was to translate the events described in Table 1 – Table 1 defines the loss of a bus as a Category C event.

In real time operations you do need to be able to operate to be able to withstand the next contingency. For IROLs, you must return the system to a state where it can withstand the next contingency – as soon as possible, but within 30 minutes. (IRO-005). There are no time constraints embedded in this standard – however limits need to be re-established based on the current conditions. If you lose an element, then you may have a new set of limits. This standard identifies what must be calculated.

Multiple contingencies must be included if they are required by the associated Region. Category C (as used in TPL-002) is only applicable when referring to planning studies conducted with a starting point where all facilities are in service. In real-time operations, you operate such that you are always prepared to handle the next contingency. In most instances an element, or multiple elements, may already be out of service so you really are operating to protect the system from a second (or more) contingency and using ‘Category C’ events beyond that would result in very restrictive operating limits. Planners design the system to have two possible outages; in real-time operations the system may be operated with one or more outages. Planners justify the cost of many new or modified system reinforcements on the basis of computer simulations that have no more elements out of service than those outages listed as Category C; in real-time operations the system must continue to be operated regardless how many outages exist at the time

No:

Ray Morella, First Energy	
John Horakh, MAAC	
Kham Vongkhamchanh SERC PSS	

Scott Moore SPP ORWG	
Travis Besier, TXU	
Kenneth Goldsmith, Alliant Energy	
Roman Carter, Southern Company Generation	
William J. Smith, Allegheny Power	
Kathleen Davis, TVA	
Robert Coish, Manitoba Hydro	
Chifong Thomas, WECC TSS	
Bill Bojorquez, NERC SES	
Marc Butts, Southern Company Services	

5. Do you agree that four months beyond the date of the Board of Trustees' adoption is sufficient time for entities to meet the requirements in this set of standards? If no, please identify any requirement that you feel will require more than 4 months of preparation time.

Yes:

John Horakh, MAAC	It makes more sense to have the Compliance Date be some amount of time after the Effective Date, not some amount of time after the Board Adoption Date, as suggested. The Board may not set the Effective Date at two months after the Adoption date. Even if they do, four months after Board Adoption only allows two months after the Effective Date. I suggest Compliance Date should be three months after Effective Date.
Response: There was no consensus on this – the drafting team will recommend giving entities 6 months to become fully compliant with the methodologies and an additional 2 months to develop and communicate the associated Facility Ratings, System Operating Limits, and Transfer Capabilities. These dates are beyond the date when the BOT adopts the standards.	
Kathleen Davis, TVA	TVA is confident it will achieve full compliance, within the proposed 4 month time frame, for FAC-008, -009, -012 and FAC-013. It will be a difficult challenge to achieve full compliance, developing and documenting required methodologies for FAC-010 and FCA-011; however, TVA is committed to applying its resources to successfully meet this challenge.
Response: There was no consensus on this – the drafting team will recommend giving entities 6 months to become fully compliant with the methodologies and an additional 2 months to develop and communicate the associated Facility Ratings, System Operating Limits, and Transfer Capabilities. These dates are beyond the date when the BOT adopts the standards.	
Bill Bojorquez, NERC SES	The SES believes that determining both normal and emergency ratings for electrical facilities to be fundamental to any TO's or GO's prudent stewardship of its assets; therefore, the SES supports the 4 month requirement. In addition to the above, the SES offers the following comments and suggestions: In FAC-010-1_R4.1, the standard refers to the Pre-Contingency State as if it is a defined term; however, the SDT has also deleted the definition for Pre-Contingency State in FAC-010. The SES recommends the phrase current state be substituted for Pre-Contingency State or to continue to use pre-contingency state as a non-defined term (with lower case letters). In FAC-011-1_R5, it appears that the Transmission Operator was inadvertently left off of the list of functional areas that shall provide SOLs and IROLs. The SES recommends including Transmission Operator in this list to be consistent with FAC-011-1_R2 and R5.2. Finally, the SES commends the Drafting Team for its work in developing a set of standards that will support the industry in facilitating a more reliable bulk electric transmission system.
Response: FAC-008 was changed to require that the Facility Ratings Methodology address both Normal and Emergency Ratings.	

FAC-010 was modified to use the lower case letters for 'pre-contingency' state. The Transmission Operator was deliberately omitted since the TOP only provides SOLs and IROLs if directed to do so by the Reliability Coordinator (RC). As envisioned, the RC would distribute any SOLs or IROLs developed by the TOP.	
Ray Morella, First Energy	
Scott Moore SPP ORWG	
Travis Besier, TXU	
Kenneth Goldsmith, Alliant Energy	
William J. Smith, Allegheny Power	
Robert Coish, Manitoba Hydro	
Chifong Thomas, WECC TSS	

No:

Kham Vongkhamchanh SERC PSS	Recommend that the adoption date for FAC-010 through FAC-013 be extended an additional two months to May 1, 2006. The SERC PSS feels that developing documentation of the methodologies requires six months in consideration that the first two months fall during traditional holiday periods and year-end closures.
Response: There was no consensus on this – the drafting team will recommend giving entities 6 months to become fully compliant with the methodologies and an additional 2 months to develop and communicate the associated Facility Ratings, System Operating Limits and Transfer Capabilities. These dates are beyond the date when the BOT adopts the standards.	
Roman Carter, Southern Company Generation	We agree with 4 months to prepare the Facility Ratings methodology that FAC-008-1 requires. However, an additional sequential time period should be allowed for facility owners to ensure documentation of the facility ratings is in place or is developed to satisfy the requirements of FAC-009-1. This is especially important for owners of large numbers of generation facilities that were designed and built over a long period of time. We recommend a minimum implementation period of 12 months, with additional allowances or exceptions for older facilities where the desired documentation may no longer exist or is not otherwise readily available, because new documentation would have to be developed for those facilities. Operating experience should be allowed in these cases to help justify additional time for development of the desired documentation. Additionally, this standard seems to indicate that predetermined lists of Emergency Ratings, System Operating Limits (SOLs), and Transfer Capabilities be published and exchanged. Southern Generation seeks

	clarification of these requirements.
Response: There was no consensus on this – the drafting team will recommend giving entities 6 months to become fully compliant with the methodologies and an additional 2 months to develop and communicate the associated Facility Ratings, System Operating Limits, and Transfer Capabilities. These dates are beyond the date when the BOT adopts the standards. With respect to older units, if you can't find the documentation, you can use, for example, nameplate data, recorded data, or operating experience as a basis for the methodology. The standards do not require developing a predetermined list of ratings and limits.	
Mike Viles, BPA	The months following the Board of Trustees' adoption date are not only traditional holiday periods but are also busy end-of -year months. Considering this, we recommend that the Compliance Date be moved out two months, to May 01, 2006. This will allow a more adequate amount of time to verify the completeness of methodologies and the development of the structure for tracking and responding to comments.
Response: There was no consensus on this – the drafting team will recommend giving entities 6 months to become fully compliant with the methodologies and an additional 2 months to develop and communicate the associated Facility Ratings, System Operating Limits, and Transfer Capabilities. These dates are beyond the date when the BOT adopts the standards.	
Peter Henderson, IESO	While we do not have problems with the 4 months period, we do not support the implementation plan until standards referred to in Q1 and Q4 are revised to address the comments.
Response: There was no consensus on this – the drafting team will recommend giving entities 6 months to become fully compliant with the methodologies and an additional 2 months to develop and communicate the associated Facility Ratings, System Operating Limits, and Transfer Capabilities. These dates are beyond the date when the BOT adopts the standards. Please see the drafting team's consideration of your comments on Q1 and Q4.	
Marc Butts, Southern Company Services	In FAC-008-1, the Transmission and Generation owners will need more time to develop the methodologies themselves, prior to compiling extensive documentation of those methodologies. We suggest an extra two months, for a total of six months. Exceptions should be considered for older facilities where the desired documentation no longer exists or is not otherwise readily available. For the very old facilities where documentation is more difficult to find, we suggest one year. General comment 1 - Implementation time for FAC-010-1 (Develop System Operating Limits Methodology) and FAC-011-1 (Establish and communicate SOL) are at the same time. Should there be time allowed to develop the actual limits based on the methodology established? It does not make sense to have them at the same time unless you are documenting an established methodology that already has been applied. General comment 2 - The same issue applies to FAC-012-1 and FAC-013-1 for the Transfer capability methodology and limits. Should there be some time allowed for applying the developed methodology? General comment 3 - Is there a different implementation time for FAC-008 versus the other standards? General comment 4 – What is the best way to prove you made methodologies available upon request? Will an email or letter, listing a time within 15 days that the document can be inspected suffice?

	General comment 5 - What is considered appropriate evidence that a Reliability Authority or Planning Authority issued its SOL Methodology? What are the best ways to “issue” the methodology? General comment 6 - How do you demonstrate that you calculated your SOL consistent with the methodology? Do you have to document the steps for every SOL in case the auditor ask for a specific SOL or is documentation of your steps in developing the SOL sufficient? General comment 7 - On page 13 of 15 (of the Implementation Plan document), the “preparation statement for M1 indicates that the SDT believes that the SOLs will be calculated during the time that the methodology is being developed.” We don’t necessarily agree with this assessment. The methodology can be developed through some example calculations for parts of the system or representative conditions and not necessarily for all of those that will eventually materialize. Adequate time should be allowed to calculate SOLs from the developed methodology. General comment 8 - The same comments related to SOLs expressed in item 7 apply to FAC-013-1 for transfer capability. Methodology could be developed for sample interfaces, etc and not necessarily for all. General comment 9 - This collection of standards requires the publication of the methodologies for determining Facility Ratings and Transfer Capabilities, and for identifying SOLs and IROLs. It requires the publication of static facility ratings. Methodologies and ratings are to be exchanged between RCs, RROs, TOs, TSPs, PA, etc. Southern supports these practices. General comment 10 - These standards also seem to indicate that predetermined lists of Emergency Ratings, System Operating Limits (SOLs), and Transfer Capabilities also be published and exchanged. Southern seeks clarification of these requirements. It is the practice within much of the industry to utilize ambient adjusted facility ratings based upon actual conditions using programs such as EPRI's Dynamp. The standard should allow for the publication of the methodology used for determining real time facility ratings rather than requiring the publication of a table of static "emergency ratings". General comment 11 - Likewise, Transfer Capabilities and SOLs vary significantly depending upon system conditions such as weather, outages, loads, dispatch, loopflows, etc. A predetermined list of SOLs (or Transfer Capabilities) could only be based upon static assumptions and could grossly overstate or understate the actual system capability in real time. This approach is useful in establishing bounded limits to address constraints that cannot be evaluated in real time, such as complex stability constraints. However, for the majority of SOLs which are thermal or voltage related, and can be better evaluated in real time using state estimators, a static list of SOLs would be too prescriptive. General comment 12 - The standard should allow for the publication of the methodology used for determining these values rather than publishing static values. If the drafting committee determines that a list of SOLs must be published, language should be added to indicate the conditions for which the values are valid. The language used in several places in the proposed standards that "SOLs shall not exceed associated Facility Ratings" should be clarified accordingly.
Response: There was no consensus on this – the drafting team will recommend giving entities 6	

months to become fully compliant with the methodologies and an additional 2 months to develop and communicate the associated Facility Ratings, System Operating Limits and Transfer Capabilities. These dates are beyond the date when the BOT adopts the standards.

If you can't find documentation for older facilities, you can use, for example, nameplate data, recorded data, or operating experience as a basis for the methodology.

Q1 – Q3 and Q7 – Q8: The implementation plan will give entities 2 months to develop ratings, limits and transfer capabilities – this is beyond the 6 months to develop the associated methodology.

Q4 – Q5: The drafting team does not want to specify any particular method of documenting that distribution took place – the intent is to allow the widest range of options possible, so that entities aren't required to change their existing practices – this supports the principle that standards shouldn't require changes to existing practices unless those changes will result in increased reliability. If you receive the request via email and distribute the information via email, a copy of the emails would be expected to suffice. The same concept works for having evidence that you 'issued' the methodology.

Q6: The measure requires that you be able to demonstrate this – you would not have to have all this documentation retained for every SOL calculation.

Q9 – Q12: These standards require that ratings, system operating limits, and Transfer Capabilities be provided to the requesting entities in accordance with the schedules provided by the requesting entities. The standards do not require the production of a 'static' list of facility ratings, system operating limits, or transfer capabilities.

The phrase, 'the SOL shall not exceed the associated Facility Rating' means that if the Facility Rating is 'x', the SOL cannot be greater than 'x'.

Other Comments

M. Calimano, NYISO

The comment forms for the Implementation Plan of the NERC DFR Standards FAC-008-1 through FAC-013-1 are to be submitted today, July 15, 2005. The New York Independent System Operator (NYISO) feels it would not be appropriate to formulate comments on the implementation plan, due to the fact that the NYISO would cast a negative ballot for the standards in their current form. The NYISO requires the opportunity to supply further comments on the draft standards in order to be able to provide support for their adoption.

The NYISO would like to bring to your attention the foremost reason for our concern with the current version of the standards; namely the omission of multiple element contingencies from the determination of System Operating Limits in Standard FAC-010-1, "System Operating Limits Methodology." The NYISO believes that reliable operation of the Bulk Electric System requires that credible multiple element contingencies be respected. While the Standards Drafting Team has worked diligently to address this concern, which has been expressed in previous draft versions of the standards, the NYISO believes this requirement should be included in FAC-010-01.

The current version of the standards allows a Regional Reliability Organization to establish criteria requiring consideration of credible multiple element contingencies. However the NYISO believes these contingencies need to be recognized in all Regions, because the reliability of the interconnected power system depends on the reliable operation of each Region. The NYISO is committed to providing feedback to the Standard Drafting Team, and appreciates their continuing efforts. Thanks you for the opportunity to participate in this process.

Response: Existing standards are silent on the need to address credible multiple contingencies in the establishment of SOLs. The proposed standards improve upon this by requiring that, as a minimum, credible multiple contingencies identified by the RRO must have associated SOLs.

In addition, the way the these standards have been written, there is a continuing opportunity for an entity (NYISO, for example) to conduct a peer review of another entity's Facility Rating, SOL and/or Transfer Capability methodology and submit comments identifying any concerns. This provision should prompt a debate on the validity and/or completeness of the provided limits that are/are not being considered during the planning and operating horizon. For example, the peer review for the SOL methodology is addressed in FAC-010 Requirement 9:

> R9. If a recipient of the SOL Methodology provides documented technical comments on the methodology, the Reliability Coordinator or Planning Authority shall provide a documented response to that recipient within 45 calendar days of receipt of those comments. The response shall indicate whether a change will be made to the SOL Methodology and, if no change will be made to that SOL Methodology, the reason why.

The drafting team believes that any deficiency in the adequacy of the methodology(ies) would be openly aired and resolved through this process.

Please note that these proposed standards are more stringent than those that are in existence today.