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## Comments to Revise the Scope

### **American Transmission Company**

Should the use of operating guides be addressed in this standard?

*Considerations — The standard should address the appropriate factors (including operating guides/procedures) that may influence the determination of operating limits and transfer capabilities. SARDT believes the industry position is that if operating guides/procedures are used, then they should be considered in determining transfer limits. The conditions when operating guides are used to determine transfer limits should be disclosed.*

### **Ameren Services — Energy Delivery Technical Services**

More details to judge whether or not all reliability related activities are covered or not.

*Considerations — The NERC Standards development process is designed to ensure that appropriate reliability related activities are addressed. More details are included in the revised SAR. Commenters are encouraged to identify any specific lacking details that would help in their review.*

### **BPA**

The intent of the facility rating portion of this standard should not be to dictate to equipment owners how to rate their equipment. The owners have the liability for these facilities and should retain the responsibility to rate individual facilities.

*Considerations — Based upon this and other comments submitted by industry participants, the SARDT believes the SAR needs to be changed to reflect the position stated above. It is the right of the owner of the facility to determine its rating. This applies to both transmission and generation facilities. The SAR will be modified to acknowledge this comment and publicly posted to ensure that industry consensus does truly exist here.*

### **Cinergy**

Scope is too broad to ascertain exactly what this standard will require. Does it require entities to have published rating methodologies or just publish ratings? It is difficult to determine appropriateness of this SAR and scope due to the broad scope of the description, therefore none of the above boxes were checked.

*Considerations — Based upon this and other comments, the SARDT has revised the SAR's detailed description to state that the ratings must be published, but that a documented methodology for determining the ratings need not be developed or made available. In conjunction with this, the SARDT is asking for industry comment on the appropriateness of this approach. The commenter is encouraged to offer input.*

*The SAR is intended to provide a base line of detail upon which to develop the actual standard. As the standard is developed, more detail will become available and commenters are encouraged to further review and comment. More details are included in the revised SAR.*

**Entergy Services**

This SAR is really a requirement to establish facility ratings, operating limits and transfer capabilities. We view the contents of this SAR to be one of the “hows”s for meeting the renamed Organization Standard “Operate Within Limits — Monitor and Assess Short-Term Transmission”. As such, it does not raise to the level of “core reliability” Organization Standard. Each transmission owner, operator and provider should be required to have in place processes for the determination of facility ratings, operating limits and transfer capabilities. “How” those are developed should be specified by the owners, operators, and providers.

*Considerations — Based upon this and other comments submitted by industry participants, the SARDT believes the SAR needs to be changed to reflect the position stated above. It is the right of the owner of the facility to determine its rating. This applies to both transmission and generation facilities. The SAR will be modified to acknowledge this comment and publicly posted to ensure that industry consensus does truly exist here.*

**Exelon Corporation**

This SAR needs to provide measurable requirements for the limits that are being proposed.

*Considerations — This comment is in concert with the intent of the NERC Standards process. However, the complete identification of the measurable requirements will not take place until the actual Standard is drafted.*

### **FirstEnergy Solutions**

In general, the principles are all right. But defining facility limits is a risk-based decision, which is not easily taken away from the facility owner/investor. If there should be a standard rating methodology, it should include parameters which allow owners to reasonably and consistently adjust the level of risk they are willing to accept, unless system operators are willing to assume the risk and pay damages as necessary. Revenues can be devised which incent facility owners to accept risk (e.g. FGRs for transmission owners).

*Considerations — Based upon this and other comments submitted by industry participants, the SARDT believes the SAR needs to be changed to reflect the position stated above. It is the right of the owner of the facility to determine its rating. This applies to both transmission and generation facilities. The SAR will be modified to acknowledge this comment and publicly posted to ensure that industry consensus does truly exist here.*

*Variances in system configuration, geography, climate, etc make it impractical to have a single ratings methodology for use across all the bulk power systems of North America. Such a single methodology would be so general as to not be useful. The responsibility for rating transmission facilities must reside with the owners of those facilities because they are most familiar with local conditions and must assume the risk associated with their facilities. Industry comments submitted in response to the first draft SAR indicate that a single methodology for rating facilities is not reasonable.*

### **Hydro One Networks Inc.**

The standard should be broad and allow the Regions/RTO/owners the freedom to define equipment ratings and/or limits to meet their requirements.

*Considerations — Based upon this and other comments submitted by industry participants, the SARDT believes the SAR needs to be changed to reflect the position stated above. It is the right of the owner of the facility to determine its rating. This applies to both transmission and generation facilities. The SAR will be modified to acknowledge this comment and publicly posted to ensure that industry consensus does truly exist here.*

*Terms used in this SAR have been defined in its detailed description in response to this and other comments.*

### **Mirant Americas Energy Marketing**

This standard must be careful to recognize engineering driven regional differences.

*Considerations — The NERC Standards process allows for input regarding Regional differences in the development of Standards. A Regional difference is an aspect of a NERC standard that applies only within a given Region or Regions. A Regional difference may be used, for example, to exempt a particular Region from all or a portion of a NERC standard that does not apply in that Region. A Regional difference may establish different measures or performance criteria as necessary to achieve reliability within that Region.*

### **National Grid USA**

The standard should simply require that the Regions establish facility ratings, operating limits and transfer capabilities as required to meet the transmission system performance levels as defined in the standard above.

*Considerations — The NERC Standards process allows for input regarding Regional differences in the development of Standards. A Regional difference is an aspect of a NERC standard that applies only within a given Region or Regions. A Regional difference may be used, for example, to exempt a particular Region from all or a portion of a NERC standard that does not apply in that Region. A Regional difference may establish different measures or performance criteria as necessary to achieve reliability within that Region.*

### **National Grid USA**

The standard should be broad based enough to allow the Regions the freedom to define such ratings and limits to meet their particular Regional requirements.

*Considerations — The NERC Standards process allows for input regarding Regional differences in the development of Standards. A Regional difference is an aspect of a NERC standard that applies only within a given Region or Regions. A Regional difference may be used, for example, to exempt a particular Region from all or a portion of a NERC standard that does not apply in that Region. A Regional difference may establish different measures or performance criteria as necessary to achieve reliability within that Region.*

### **Reliant Energy HL&P**

Regarding operating limits and transfer capabilities, HL&P believes there may be value to a NERC standard for those areas not governed by a RTO. Ideally, transfer capabilities would be determined by one central authority modeling, monitoring, and assessing the entire transmission grid. That can be done, and is done, in ERCOT. ERCOT does not use concepts found in the current NERC Standards, such as electronic tagging or Capacity Benefit Margin. All transactions are scheduled through ERCOT, and ERCOT determines transfer capabilities by performing security assessments and monitoring the system in real time. Therefore, for areas such as ERCOT, there is no need for a NERC standard addressing these topics. However, in other areas, a NERC standard addressing transfer capabilities may be useful. For such areas, if a standard is developed, we support ERCOT's comments regarding the appropriate scope and characteristics of such standards.

It is important to note that, unlike some other systems, the ERCOT organization models and monitors the entire network, so there is no possibility of "loop flows" or other external factors that can affect grid reliability.

*Considerations — In keeping with the intent of the NERC Standards, it is anticipated that the Standard will not dictate how facility ratings, operating security limits or transfer capabilities are determined, but rather what the outcome of these processes should be.*

*The Standards development process allows for Regional differences. Considerations — The NERC Standards process allows for input regarding Regional differences in the development of Standards. A Regional difference is an aspect of a NERC standard that applies only within a given Region or Regions. A Regional difference may be used, for example, to exempt a particular Region from all or a portion of a NERC standard that does not apply in that Region.*

*A Regional difference may establish different measures or performance criteria as necessary to achieve reliability within that Region.*

*If you believe an ERCOT Regional difference exists specific to this SAR, please provide more information for inclusion in the revised SAR. The SAR will be modified to acknowledge this comment.*

## Comments About Terminology

### **FirstEnergy Corp**

To insure that a competitive market in the electric industry has the ability to expand, we need industry wide standards that will create a common ground of definition and application in the determination of facility ratings, operating limits, and transfer capabilities. Currently, our industry lacks wide area consensus on the definition and application of criteria in these areas. This lack of consensus does not maximize the ability of the transmission system to facilitate a market driven industry. Transfer capabilities between control area to control area, or RTO to RTO, needs to be more clearly defined and standardized. As the footprint of operations expand and cover a larger sector of potential opportunities, a need for standard equipment ratings become a necessity. A standard that would incorporate a common definition of facility ratings, limits, and transfer capabilities would enhance the operations and usage of the electric grid.

*Considerations — Based upon this and other comments submitted by the industry, terms used in this SAR have been defined in its detailed description. Although a standard definition of terms is necessary, industry consensus to date does not support a standard methodology for determining facility ratings and is thus not included as a requirement in the revised SAR.*

### **Independent Electricity Market Operator (IMO)**

To the extent that standard terminology can be used for equipment, voltage and transfer limits, this would be beneficial and should facilitate the implementation of this standard. This appears to require some of the criteria currently used in the NPCC documents A-2 and A-3 and the IMO supports this.

*Considerations — Based upon this and other comments submitted by the industry, terms used in this SAR have been defined in its detailed description.*

### **MAAC**

This standard must carefully define what is meant by ‘limits’ particularly what is meant by an Operating Security Limit. There must be an effort to clearly distinguish between the violation of a limit that has no impact on interconnected system operations, and the violation of a limit that threatens the security of that interconnected system. Same comment submitted for Operating to transmission Limits.

*Considerations — Based upon this and other comments submitted by the industry, terms used in this SAR have been defined in its detailed description.*

### **Progress Energy — Carolina Power & Light Company and Florida Power Corp.**

Common terminology should be used throughout the SARs. If the term “operating limits” is used, a definition is needed. The use of “operating limits” is confusing when past standards have used other terminology such as Operating Security Limits and Operating Security Limit Violations. This standard should address the definition of the terminology used, whether “operating limits” or “Operating Security Limits.”

*Considerations — Based upon this and other comments submitted by the industry, terms used in this SAR have been defined in its detailed description.*



### **SERC**

Common terminology should be used throughout the SARs. If the term “operating limits” is used, a definition is needed. The use of “operating limits” is confusing when past standards have used other terminology such as Operating Security Limits and Operating Security Limit Violations. This standard should address the definition of the terminology used, whether “operating limits” or “Operating Security Limits.”

*Considerations — Based upon this and other comments submitted by the industry, terms used in this SAR have been defined in its detailed description.*

### **Southeastern Power Administration**

Add definitions of Operating Limits and Operating Limit Violations.

*Considerations — Based upon this and other comments submitted by the industry, terms used in this SAR have been defined in its detailed description.*

### **Southern Company**

Common terminology should be used throughout the SARs. If the term “operating limits” is used, a definition is needed. The use of “operating limits” is confusing when past standards have used other terminology such as Operating Security Limits and Operating Security Limit Violations. This standard should address the definition of the terminology used, whether “operating limits” or “Operating Security Limits.”

*Considerations — Based upon this and other comments submitted by the industry, terms used in this SAR have been defined in its detailed description.*

## **Comments about FERC and NAESB**

### ***Allegheny Energy Supply***

System Operating Limits and Transfer Capability are based on facilities ratings. System Operating Limits and Transfer Capability limits have a direct impact on the available capacity on the transmission system for the market. This standard should be developed in a process which takes into account market and reliability interests.

*Considerations — The NERC BOT directed NERC to proceed with the development of reliability standards and this SARDT is proceeding with that directive. It is the intent of the NERC Standards process and this SARDT to focus on the reliability-related aspects of this topic, not the commercial aspects. The SARDT encourages parties to comment on what specific aspects of the SAR are reliability-related and what specific aspects of the SAR are business-related. The SARDT also encourages parties to specifically comment on what specific aspects of the SAR may have an adverse impact on the market.*

### ***American Electric Power***

To the extent that this SAR is transitioning an existing standard from the old world to the new world (Functional Model), then the standard should not go beyond the original scope. Consistent with our general comments, once the clarity is achieved on Standard Market Design and RTO formations, then this standard should be revisited and reevaluated.

One consideration in the development of the new standard would be that the specific facilities ratings will be set by Transmission Owners and should be subject to RTO implementation, which is consistent with FERC's Standard Market Design Order.

*Considerations — The NERC BOT directed NERC to proceed with the development of reliability standards and this SARDT is proceeding with that directive. It is the intent of the NERC Standards process and this SARDT to focus on the reliability-related aspects of this topic, not the commercial aspects. The SARDT encourages parties to comment on what specific aspects of the SAR are reliability-related and what specific aspects of the SAR are business-related. The SARDT also encourages parties to specifically comment on what specific aspects of the SAR may have an adverse impact on the market.*

*The new standard should be designed recognizing the responsibilities of parties such as TOs and RTOs in the current and near future. The SARDT will monitor the progress on FERC's Standard Market Design Order only in so far as it impacts reliability aspects of the SAR.*

### **Baltimore Gas & Electric**

The promulgation for comment of these SARs is premature. The industry “standard making process” is in a transition phase and it is overly burdensome to devote resources at this time. Once legislation or FERC firmly determines which entity(ies) is responsible for standards it will make sense to move forward with said entity.

Even if NERC wants to cover reliability standards, almost all standards have a reliability and commercial impact; thereby, necessitating developing a single process that incorporates both commercial and reliability aspects of standards development. The current NERC process risks being changed soon, discounts commercial aspects, and is not part of a finalized overall industry process.

Waiting a short while to move forward on a new standards setting process is acceptable and prudent given that NERC standards are currently in place and the industry can continue to use these standards until the new process and standards setting organization(s) are firmly set.

*Considerations — The NERC BOT directed NERC to proceed with the development of reliability standards and this SARDT is proceeding with that directive. It is the intent of the NERC Standards process and this SARDT to focus on the reliability-related aspects of this topic, not the commercial aspects. The SARDT encourages parties to comment on what specific aspects of the SAR are reliability-related and what specific aspects of the SAR are business-related. The SARDT also encourages parties to specifically comment on what specific aspects of the SAR may have an adverse impact on the market.*

### **Calpine**

Any aspect that goes beyond establishing specific reliability criteria to be incorporated into the determination of facility ratings, operating limits, and transfer capabilities.

*Considerations — The NERC BOT directed NERC to proceed with the development of reliability standards and this SARDT is proceeding with that directive. It is the intent of the NERC Standards process and this SARDT to focus on the reliability-related aspects of this topic, not the commercial aspects. The SARDT encourages parties to comment on what specific aspects of the SAR are reliability-related and what specific aspects of the SAR are business-related. The SARDT also encourages parties to specifically comment on what specific aspects of the SAR may have an adverse impact on the market.*

### **Calpine**

Only Total Transfer Capability and Transmission Reliability Margin should be discussed. Available Transmission Capacity and Capacity Benefit Margin are market/commercial issues and should not be included in any NERC Organization Standard.

*Considerations — The NERC BOT directed NERC to proceed with the development of reliability standards and this SARDT is proceeding with that directive. It is the intent of the NERC Standards process and this SARDT to focus on the reliability-related aspects of this topic, not the commercial aspects. The SARDT encourages parties to comment on what specific aspects of the SAR are reliability-related and what specific aspects of the SAR are business-related. The SARDT also encourages parties to specifically comment on what specific aspects of the SAR may have an adverse impact on the market.*

**Electricity Consumers Resource Council (ELCON)**

The establishment of this SAR is premature. All commercial implications of the SAR should be identified and mitigated prior to the drafting.

*Considerations — The NERC BOT directed NERC to proceed with the development of reliability standards and this SARDT is proceeding with that directive. It is the intent of the NERC Standards process and this SARDT to focus on the reliability-related aspects of this topic, not the commercial aspects. The SARDT encourages parties to comment on what specific aspects of the SAR are reliability-related and what specific aspects of the SAR are business-related. The SARDT also encourages parties to specifically comment on what specific aspects of the SAR may have an adverse impact on the market.*

**Powerex**

Calculation of ATC is a business practice, not a core reliability standard. This SAR should be limited to addressing determination of TTC.

*Considerations — It is the intent of the NERC Standards process to focus on reliability-related aspects, not commercial aspects. There are reliability-related aspects, as well as business-related aspects, to the determination of ATC. The SARDT believes the revised SAR focuses on the reliability-related aspects of the calculation of ATC and encourages parties to comment on what aspects of the calculation of ATC are business-related and what aspects are reliability-related.*

**Public Service Electric & Gas**

It is premature to continue development of this SAR until FERC has specified the organization to be responsible for the development of wholesale electric standards.

*Considerations — The NERC BOT directed NERC to proceed with the development of reliability standards and this SARDT is proceeding with that directive. It is the intent of the NERC Standards process and this SARDT to focus on the reliability-related aspects of this topic, not the commercial aspects. The SARDT encourages parties to comment on what specific aspects of the SAR are reliability-related and what specific aspects of the SAR are business-related. The SARDT also encourages parties to specifically comment on what specific aspects of the SAR may have an adverse impact on the market.*

## **Comments about Subdividing the SAR**

### **Ameren Services — Energy Delivery Technical Services**

The purpose and description is too general. This standard may require to be split into two or more standards. For example, determination and usage of transfer capability require a standard by itself.

*Considerations — Although this comment has merit, the SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related.*

### **Bonneville Power Administration — Power Business Line**

Seems like Facility Ratings should be separate from operating limits and transfer capabilities. Facility ratings are more applicable to Transmission Owners. Operating limits and transfer limits are developed using facility ratings via planning and operating studies. These studies are done by Planners, Transmission Operators, Reliability Entities and will be applicable to those entities. The process of establishing operating limits will more than likely use facility ratings as an input. It seems two standards might be in order here.

*Considerations — Although this comment has merit, the SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related. The SAR should be applied to both planning and operations as a measure of the system performance capability.*

### **Dairyland Power Cooperative**

Facility ratings and Transfer Capabilities are diverse enough to require separate standards. This is especially true in regions where Transfer capabilities are limited by Transient Stability concerns.

*Considerations — Although this comment has merit, the SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related.*

### **Dominion Virginia Power**

As currently written, this SAR is too broad, combining both planning and operating issues. It is recommended that this SAR be revised to address only Facility Ratings, and be retained in the “Transmission Adequacy” category.

The subject of “Transfer Capability” applies to both planning and operations. Each transmission system should be planned to allow for transfers in various directions. Perhaps a separate SAR titled “Planning for Transfer Capability” should be created and included in the “Transmission Adequacy” category. A third SAR covering transfer capability from the operations side could be combined with System Operating Limits and included in the “Transmission Reliability and Resource Balance” category, or combined with existing SAR # 6, which is already in that category.

*Considerations — Although this comment has merit, the SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related. The SAR should be applied to both planning and operations as a measure of the system performance capability.*

### **Duke Power**

The determination of facility ratings should be in a separate SAR from determining operating limits and transfer capabilities. Facility ratings are directly related to evaluation of equipment design, performance, and operating conditions. The operating limits and transfer capabilities are more concerned with the analysis of transmission system models and operating practices of the transmission owner/operator. Maintaining separation would provide appropriate scope for each standard and avoid confusion on the interrelationship of these issues.

*Considerations — Although this comment has merit, the SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related. Facility ratings are required to determine system transfer capabilities.*

### **MAPP Reliability Council**

Facility ratings and Transfer Capabilities are diverse enough to require separate standards. This is especially true in regions where Transfer capabilities are limited by Transient Stability concerns.

*Considerations — Although this comment has merit, the SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related.*

### **PG&E**

This SAR should be divided into two SAR's:

1. Facility Ratings (to be applicable to Transmission Owner, Distribution Provider and Generator Functions) Function and,
2. Development of Operating Limits and Transfer Capability (to be applicable to Reliability Authority Function)

*Considerations — Although this comment has merit, the SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related.*

### **Southern Company**

The scope of this SAR is once again poorly stated. The scope uses the term “transfer capabilities” which really applies to TTC, ATC, CBM etc... and interface related measurements and indicators. These subjects are presently covered in the I.E. Standards are should not be addressed in a SAR concerning facility ratings. The facility rating subject is addressed in the I.C. Standard and covers only transmission and not generation. If the intention is to include internal plant generation facilities, a new SAR should be written to address these subjects separate from transmission facilities. It is recommended that the I.C Standard be used as a template for the development of the standard associated with this SAR. The I.C Standard has proven to be a very functional standard.

If operational planning is to be included in the standard associated with this SAR then there needs to be provisions that provide for dynamic ratings.

*Considerations — The SAR will cover both generator and transmission ratings. The SARs are not intended to duplicate the existing NERC Planning Standards or Operating Policies, but rather to replace them. Existing Standards will be considered when developing new NERC Standards.*

*The SAR should be applied to both planning and operations as a measure of the system performance capability.*

### **Tenaska**

The standard should be separated into two pieces: 1) Determine Facility Ratings and 2) Determine Operating Limits and Transfer Capabilities. The reason is that Facility Ratings deal with specific pieces of equipment and Operating Limits/Transfer Capabilities deal with multiple pieces of equipment.

*Considerations — Although this comment has merit, the SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related.*

**WECC Technical Studies Subcommittee**

This SAR should be divided into two SAR's:

1. Facility Ratings (to be applicable to Transmission owner, Distribution provider, and Generator Function) and,
2. Development of Operating limits and transfer capability (Applicable to Reliability Authority Function)

Question: Is transfer capability the same as Path Rating? If so, Planning Authority will also be responsible.

*Considerations — Although this comment has merit, the SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related. The SAR should be applied to both planning and operations as a measure of the system performance capability.*



## **Comments on Purpose/Industry Need**

### ***Dairyland Power Cooperative***

This SAR should define a need for a properly documented and consistently applied rating methodology document. The elements to be included in this document should be flexible enough to address region specific requirements. The use of the term “etc.” in the SAR description leaves the scope of this SAR open-ended. The scope of the SAR should be stated and complete.

*Considerations — Based upon other comments, the SARDT has revised the SAR’s detailed description to state that the ratings must be published, but that a documented methodology for determining the ratings need not be developed or made available. In conjunction with this, the SARDT is asking for industry comment on the appropriateness of this approach. The commenter is encouraged to offer input.*

*The SAR description has been revised and more detail added.*

### ***Dynegy, Inc.***

The purpose/industry need section should start with: The purpose of this standard is to ensure that a consistent, uniformly applied standard is developed ...

*Considerations — Variances in system configuration, geography, climate, etc make it impractical to have a single ratings methodology for use across all the bulk power systems of North America. Such a single methodology would be so general as to not be useful. The responsibility for rating transmission facilities must reside with the owners of those facilities because they are most familiar with local conditions and must assume the risk associated with their facilities. Industry comments submitted in response to the first draft SAR indicate that a single methodology for rating facilities is not reasonable.*

*It is unclear how a single methodology would be developed. Further comments or suggestions on how to achieve a workable single methodology are welcomed.*

### ***Independent Electricity Market Operator (IMO)***

The SAR must be rigorously tested against the White Paper requirements to specify what performance must be achieved rather than how to achieve it.

*Considerations — In keeping with the intent of the NERC Standards, it is anticipated that the Standard will not dictate how facility ratings, operating security limits or transfer capabilities are determined, but rather what the outcome of these processes should be.*

### ***Manitoba Hydro***

The industry need has not been defined for this SAR.

*Considerations — Based upon this and other industry comments, the industry need has been revised to better state the purpose of this SAR in the revised SAR.*

### **MAPP Reliability Council**

This SAR should define a need for a properly documented and consistently applied rating methodology document. The elements to be included in this document should be flexible enough to address region specific requirements. The use of the term “etc.” in the SAR description leaves the scope of this SAR open-ended. The scope of the SAR should be stated and complete.

*Considerations — Based upon other comments, the SARDT has revised the SAR’s detailed description to state that the ratings must be published, but that a documented methodology for determining the ratings need not be developed or made available. In conjunction with this, the SARDT is asking for industry comment on the appropriateness of this approach. The commenter is encouraged to offer input.*

*The SAR description has been revised and more detail added.*

### **Powerex**

The Purpose of this standard requires the following changes:

1. Purpose, first paragraph, last sentence, revise as follows: If these operating security limits are violated and a disturbance occurs, the system could sustain widespread or unacceptable outages or equipment could incur severe damage.
2. Purpose, second paragraph, third sentence, revise as follows: The total transfer capability (TTC) of a section of the power system is the amount of MW transfer that can be allowed while continuing to operate within equipment and electric system thermal, voltage and stability limits.

I am recommending that the phrase “while continuing to operate within equipment and electric system thermal, voltage and stability limits” be transferred from SAR #1. This is to ensure that the system not only be planned to adhere to these limits, but also be operated to these limits. By including these performance requirements in the planning SAR, there is only an inference that the system must also be operated to certain performance standards (i.e. system operated as planned). However, by including them in the standard for establishing transfer capabilities, it is clear that the system must also be operated to meet these standards. Since planners have to plan a system that can be operated, there is no loss, from a planning point of view, if the performance standards are associated with transfer capabilities. Furthermore, if the performance standards are associated with planning, this permits a disconnect between planning and operations in that allows planners to meet standards that may not be acceptable to operators.

Also, much of the “Purpose” statement of this SAR should be moved to “Description”.

*Considerations — The purpose statement has been revised in response to the concerns raised to more clearly state that facility ratings must be determined in consideration of both system planning and operations. Appropriate facility ratings and transfer limits result in avoidance of equipment damage beyond expected levels, thus this specific suggestion was not explicitly included in the revised purpose statement. There was not sufficient support in the comments submitted to date to require that prevention of equipment damage be stated as an explicit goal of facility ratings and determining transfer limits.*

*If required, the definition of TTC will be addressed in a separate section of the revised SAR.*

*The real time measurement of how well an entity operates within established transfer limits is addressed in another SAR (‘Operate within Limits’).*

*We have been unable to find the cited references to other SAR's and cannot comment on them. The commenter is encouraged to provide more detail on the other SARs for consideration.*

## **Comments on the Brief Description**

### **American Transmission Company**

This SAR is a little puzzling because it seems that Transfer Capabilities are awkwardly tagged onto it. It seems like it might fit better under assessing the system and possibly under emergency conditions. Also, while ratings are important there are numerous other modeling data assumptions that affect the determination of how the system will perform. For example, what rules should be followed for including future changes in generation, load, reinforcements, and transactions? What assumptions should be made about determining the resistance of a conductor? It's not certain that all of these issues apply just to this SAR, they probably apply to others as well.

*Considerations — Although this comment has merit, the SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related. The SAR should be applied to both planning and operations as a measure of the system performance capability.*

### **BPA**

Modify second sentence of the Description to “Facilities included in the standard shall be those that affect TRANSFER CAPABILITY” not RELIABILITY. The last sentence should be reduced to “to adhere to established limits such as voltage, thermal or frequency limits” and remove the reference to power transfer limits, thermal and stability limits.

*Considerations — The description has been modified to make it clear that the standard applies to the bulk power system.*

### **California ISO**

This Standard should be used only to set a standardized method for determining transfer capabilities.

*Considerations — Transfer limits are only a portion of considerations for planning and operating the bulk power system. Facility ratings and operating limits must also be considered. It is not anticipated that the standard will require a single methodology for rating facilities, operating limits or transfer capability.*

### **Dominion Virginia Power**

Delete System Operating Limits and Transfer Capabilities

*Considerations — The description has been redrafted to provide more detail and direction to the standards drafting team regarding this comment. The SAR is only intended to be the starting point for the standard. The SARDT would like to go through further iteration of the standard development, including industry comment, before deciding this issue.*

### **ERCOT**

This SAR and the other posted SARs provide an appropriate framework for transitioning existing NERC Operating Policies and Planning Standards into new, NERC Organization Standards. Multiple compliance measures may be defined and developed for each of the eleven proposed Organization Standards. The Organization Standards and related compliance measures should focus on what functions must be performed for reliability, on who is responsible for each compliance measure for each required function and not, on how the compliance measure is achieved. The compliance measure must be measurable or demonstrable to ensure compliance.

There should be a Standard that requires owners of electric facilities to establish ratings of their equipment and provide that information to Reliability and Planning Authorities. That data is essential for those authorities to perform their functions that are necessary for system reliability. However, exact compliance measures on how those ratings should be determined are probably not practical due to numerous types of equipment, design, manufacturers and owner requirements.

Similarly there should be a standard requiring determination of system operating limits and transfer capabilities. However, the standard should focus on who (which function) is responsible and what should be determined, not how the limits should be determined.

*Considerations — Based upon this and other comments submitted by industry participants, the SARDT believes the SAR needs to be changed to reflect the position stated above. It is the right of the owner of the facility to determine its rating. This applies to both transmission and generation facilities. The SAR will be modified to acknowledge this comment and publicly posted to ensure that industry consensus does truly exist here.*

### **Hydro One Networks Inc.**

The standard should identify (a) the accountabilities to establish facility ratings, operating limits and transfer capabilities to meet transmission system performance levels as defined in the standard above, and (b) the need to share this information

*Considerations — The description has been redrafted to provide more detail and direction to the standards drafting team regarding this comment and to allow for more industry debate.*

### **Manitoba Hydro**

Delete functionalities related to system operating limits and transfer capabilities.

*Considerations — The description has been redrafted to provide more detail and direction to the standards drafting team regarding this comment and to allow for more industry debate. The SAR is only intended to be the starting point for the standard. The SARDT would like to go through further iteration of the standard development before making the modifications suggested.*

### **Mirant Americas Energy Marketing**

Delete the section covering Facility Ratings. Industry standards already exist (e.g. ANSI, IEEE, NEMA, etc) which address equipment design limits and ratings.

*Considerations — This standard is not intended to replace the IEEE or ANSI standards. Facility/equipment owners will still have the ability to use IEEE or ANSI standards as input to rating their facilities.*

### **Reliant Energy HL&P**

HL&P is concerned about the co-mingling of these inter-related concepts. Facility ratings are a necessary component of determining transfer capabilities, but facility ratings are also a necessary component of assessing transmission future needs and developing transmission plans. Facility ratings are largely addressed by IEEE and ANSI standards, and there is no value in having a NERC standard that further addresses this topic.

*Considerations — This standard is not intended to replace the IEEE or ANSI standards. Facility/equipment owners will still have the ability to use IEEE or ANSI standards for rating their facilities.*

*The SARDT feels that it is premature to split the SAR. One of the primary objectives of the SAR process is to keep the number of standards at a reasonable level while focusing on reliability. When the standard is being drafted, there will be specific measurements included for each of the items included in the SAR. For example, it is recognized that facility ratings are different than transfer limits, but they are related.*

### **Reliant Resources**

Delete dependence on requirements and limits that are not specific and measurable.

*Considerations — The description has been redrafted to provide more detail and direction to the standards drafting team regarding this comment and to allow for more industry debate*

### **Reliant Resources**

System Operating Limits and Transfer Capabilities — references “..predefined system reliability requirements..” and “..adhere to established limits..” are unclear as to where these come from. The core reliability standard should not reference requirements that are established by another standard or process. The core reliability standard should itself establish these measurable boundary conditions for reliability. If it cannot, then there is no core reliability standard for System Operating Limits and Transfer Capabilities.

*Considerations — While it is desirable that all the standards stand alone, this is not practical in all cases. The SARDT will work to use common terms and definitions in the standards to avoid confusion.*

### **Westar Energy**

Add the determination of generation capability.

*Considerations — It is assumed that generators are included in facility ratings in this standard.*

## Comments on the List of Applicable Functions

### **American Transmission Company**

Should the transmission operator, if different from the transmission owner, play a role in determining operating limits?

It would seem to be important that the different TSP's use the same transfer capability ratings between the two of them to determine AFCs

*Considerations: As per the NERC functional model, the reliability authority in consultation with the planning authority will determine operating limits. Facility owners will determine the ratings of their facilities. The standard will apply only to bulk system limits and not local ones.*

*The Transmission Service Provider function as defined in the functional model does not calculate transfer capabilities or determine facility ratings. As such, this standard does not apply to Transmission Service Providers*

It is unclear how the Distribution Provider would be included under this SAR.

*Considerations — The SARDT believes the industry position is that this standard should not apply to the Distribution Provider as indicated but only to those entities whose performance could adversely affect the performance of the Bulk Electric System. The Distribution Provider is only subjected to “Code of Conduct” issues, and is responsible to shed load as directed by the Transmission Operator.*

### **California ISO**

“Transmission Operator” should be added to the Reliability Functions that this Organizational Standard would apply to.

*Considerations — The NERC functional model definitions assign the Transmission Operator the responsibility to define operating limits and maintain local system integrity, as indicated by this commenter. This standard should apply to Transmission Operators.*

### **Illinois Power Company**

The SAR indicates that this standard would apply to Generators and Distribution Providers. Today NERC Policy and Standards do not apply to these Functions. For example, NERC has no authority to require its standards to be applied to determine ratings for distribution facilities. And the application of NERC standards to Independent Generators are carried out by transmission owners through interconnection agreements. Is NERC proposing that this will change and they will begin to impose standards directly on distribution providers and generators? What is intended here is simply not clear.

There is inadequate detail in the SAR to determine if the scope of the SAR is appropriate and adequate. Is it intended that the standard would be that facility rating, operating limits and transfer capabilities must be established and documented? If so that would be appropriate.

*Considerations — The SARDT believes the industry position is that this standard should not apply to the Distribution Provider as indicated but only to those entities whose performance could adversely affect the performance of the Bulk Electric System. The Distribution Provider is only subjected to “Code of Conduct” issues, and is responsible to shed load as directed by the Transmission Operator.*

*Individual Generators do play a vital role in the performance of the BES. It is recognized that the application of existing standards to generators is presently done through language in interconnection agreements however in many cases this language may be insufficient or lacking the necessary mandatory statements. Furthermore, we recognize that steps are being taken to address inadequacies and inconsistencies that exist in interconnection agreements. This is an attempt to standardize and develop pro-forma interconnection agreements by FERC and until such time as this is imposed on an industry wide basis we feel it is appropriate to “apply” requirements contained in this SAR to generators.*

### **Illinois Power Company**

In Reviewing the Distribution Provider and Generator responsibilities in the Functional Model, neither has any responsibility indicated for the activities identified in the SAR. Why therefore would this standard be applied to them?

*Considerations — The SARDT believes the industry position is that this standard should not apply to the Distribution Provider as indicated but only to those entities whose performance could adversely affect the performance of the Bulk Electric System. The Distribution Provider is only subjected to “Code of Conduct” issues, and is responsible to shed load as directed by the Transmission Operator. Individual Generators do play a vital role in the performance of the BES and this standard should apply to them.*

### **Illinois Power Company**

Add Transmission Operators: They have a responsibility to define operating limits and therefore the standard should apply to them

*Considerations — The NERC functional model definitions assign the Transmission Operator the responsibility to define operating limits and maintain local system integrity, as indicated by this commenter. This standard should apply to Transmission Operators.*

### **Ohio Valley Electric Corporation**

Not sure if correct entites are listed in the “applies to” area. It has transmission owner but under RTO would it not seem more appropriate to have it apply to the operator or service provided instead of the owner. Surely the RTO would want some continuity across the different systems that they control. Already MISO has raised concerns about the different way ATC is calculated, why would ratings and transfer capabilities also not be a concern?

*Considerations — The NERC functional model definitions assign the Transmission Operator the responsibility to define operating limits and maintain local system integrity, as indicated by this commenter. This standard should apply to Transmission Operators.*

*Industry comments indicate that the Transmission Owner, who bears the responsibility for both financial and safety concerns of his equipment, should have the latitude to rate that equipment.*

*The Transmission Service Provider function as defined in the functional model does not calculate transfer capabilities or determine facility ratings. As such, this standard does not apply to Transmission Service Providers.*

### **PG&E**

Also, if “Transfer Capability” extends into planned systems, then, we will need to add Planning Authority to Item 2.

*Considerations: This standard should apply to planning authorities.*



**Progress Energy — Carolina Power & Light Company and Florida Power Corp.**  
TSP and Transmission Operator should be added to the list of applicable functions.

*Considerations — The NERC functional model definitions assign the Transmission Operator the responsibility to define operating limits and maintain local system integrity, as indicated by this commenter. The Transmission Service Provider function as defined in the functional model does not calculate transfer capabilities or determine facility ratings. As such, this standard does not apply to Transmission Service Providers.*

**SERC**

TSP and Transmission Operator should be added to the list of applicable functions.

*Considerations — The NERC functional model definitions assign the Transmission Operator the responsibility to define operating limits and maintain local system integrity, as indicated by this commenter. The Transmission Service Provider function as defined in the functional model does not calculate transfer capabilities or determine facility ratings. As such, this standard does not apply to Transmission Service Providers.*

**Southern Company**

TSP and Transmission Operator should be added to the list of applicable functions.

*Considerations — The NERC functional model definitions assign the Transmission Operator the responsibility to define operating limits and maintain local system integrity, as indicated by this commenter. The Transmission Service Provider function as defined in the functional model does not calculate transfer capabilities or determine facility ratings. As such, this standard does not apply to Transmission Service Providers.*

## **Comments on the List of Applicable Reliability Principles**

### ***American Transmission Company***

Under “Applicable Reliability Principles”, wouldn’t #1, “Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions,” apply?

*Considerations — Reliability Principle #1 does apply to this proposed standard and should be checked. The SAR will be revised to reflect this change.*