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Conversation: GOTO Report Comments
Posted To: Standards

Subject: GOTO Report Comments

Sycamore Cogeneration Company, registered as a GO and GOP, is in agreement with the GO-TO Draft report published by the group reviewing Generator Requirements at the Transmission Interface. The recommended Reliability Standard changes will close reliability gaps at the transmission interface without burdening GO and GOP entities with additional requirements that would not add value to the reliable operation of the Bulk Electric System.

Thank you,

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September 14, 2009

GOTO Draft report comments of We Energies:

EOP-003-1 R7 We do not agree to adding Generator Operator applicability to EOP-003-1 R7. The need to coordinate generator under/over-frequency setpoints with the other entities is already covered in other standards (PRC-001).

PER-001-0 & PER-002-0 It is not clear that adding GOP applicability is required for reliability of the BES. It appears this is already provided for by the Balancing Authority, Transmission Operator and Reliability Coordinator.

We agree with Executive Summary Conclusions #1 & #2, that neither Transmission Owner/Transmission Operator requirements, nor registration, should generally be applied to Generator Owner/Generator Operators in connection with Generator Interconnection Facilities. Conclusion #1 implies that the Regional Entity will be given the power/ability/discretion/responsibility of designating which GIFs are critical to the BES. Is that a foregone conclusion? The Regional Entities tend to avoid cataloging all BES facilities and Compliance is measured on a Registered Entity basis, not alignment of assets. In addition, does the creation of the definition of Generator Interconnection Facilities imply a requirement to specifically address these facilities in the CIP-002 assessment as opposed to the "Generator" itself?

We agree with *Recommendation #6*, that NERC and the regional entities should refrain from further registering Generator Owner/Generator Operators as Transmission Owners or Transmission Operators.

As to Section 10 on Material Impact Tests for Generator Interconnection Facilities, we strongly disagree with Proposal 1 that Generator Owners should be subject to FAC-003-1, "Transmission Vegetation Management Program". In general, we support an "exposure" test as described in Proposal 2 to determine applicability for Generator Interconnection Facilities above 200kv. Only those Generator Interconnection Facilities above 200kv which extend more than one mile from the Generator Owner property boundary should be assigned applicability for FAC-003-1. A clarification may be needed to provide that those Generator Interconnection Facilities which are located entirely on Generator Owner property should not be applicable.

Anthony Jankowski
Manager Electric System Operations

Comments on the Generator Requirements at the Transmission Interface Draft Report

Xcel Energy would like to thank the Ad Hoc Group for its efforts and offers the following comments on the Report:

Regarding the Report's recommendation that Generator Operators be added as an applicable entity to EOP-003 in order to ensure coordination between generator underfrequency protection and Underfrequency Load Shedding programs, we would like to point out that the NERC Generator Verification Standards Drafting Team is currently revising standard PRC-024 "Generator Performance During Frequency and Voltage Excursions" which specifically addresses the concerns of the Ad Hoc Group.

Regarding the Report's recommendation that Generator Operators be added as an applicable entity to PER-001, PER-002, and TOP-008 we would like to suggest that the transmission voltage level equipment operated by a Generator Operator at a GIF would, in almost all instances, be limited to the circuit breakers connecting the step-up transformer to the transmission system. This is analogous to the operation of generator circuit breakers at a conventional plant that connects to a transmission substation. The training required in the PER standards and the responsibilities outlined in TOP-008 are directed toward operation of a transmission system to avoid violation of SOL's and IROL's and in recovering when they are violated. The operators at a generating facility with a GIF would not be aware of SOL or IROL conditions nor would they know if disconnecting their facility would help or hurt the mitigation of a violation.

DRAFT Calpine comments responding to the GO/TO Team Draft

Calpine thanks the GO/TO Team for their important work on this contentious issue and supports the approach taken by the Team. We agree that Generators should not be registered as TO/TOP based on their Generator Interconnection Facilities and that the Team's recommended changes would resolve any reliability gaps that may exist as result of the Generator Interconnection Facilities. Calpine has some concerns with a few passages in the document and request that the GO/TO Team consider the suggested revisions to ensure that some Generator Interconnection Facilities are not inadvertently considered subject to registration as TO/TOP.

Where suggested additional language is provided, it is highlighted in **red text**. Any suggested deletions are marked in ~~strikethrough~~-font. In addition, Calpine offers explanatory notes in brackets [] to attempt to further explain the reasons for the suggested revisions.

[COMMENT 1 - EXECUTIVE SUMMARY CONCLUSION NO. 1 (Page 3 of Draft)]

Executive Summary Conclusions

1. Generator Interconnection Facilities **that connect generators that meet the NERC Registry criteria for registration as Generator Owners or Generator Operators operating at a voltage of 100 kV or greater or those deemed critical to the Bulk Electric System by the Regional Entity the Generator Interconnection Facility** are part of the Bulk Electric System for purposes of applying Generator Owner and Generator Operator requirements but not for applying Transmission Owner or Transmission Operator requirements.

[Note: Per the language The current NERC Bulk Electric System (BES) definition, NERC leaves to the Regional Entity the option of providing a regional BES definition that may further define which entities are required to register – “generally connected at voltages of 100 kV or greater...” To avoid any unnecessary disagreement about the Bulk Electric System definition, we recommend the change noted in conclusion No.1 above.]

[COMMENT 2 - EXECUTIVE SUMMARY CONCLUSION NO. 2 (Page 3 of Draft)]

2. The Generator Owner or Generator Operator that owns and or operates a Generator Interconnection Facility; that is a sole-use facility that interconnects the generator to the ~~grid~~, **integrated transmission facilities**, should not be registered as a Transmission Owner or Transmission Operator by virtue of owning or operating its Generator Interconnection Facility. **“Sole-use facility” includes configurations where a Qualifying Facility’s Generation Interconnection Facility is used to supply power to one or more of the Qualifying Facility’s electrical customers.**

[Note: Many Generation Facilities with Qualifying Facility status serve the dual electrical purpose of supplying power to one or more industrial facilities and to the grid, with the line serving the customer when the Generation Facility is off-line or at reduced load. This configuration should not force registration as a TO/TOP. If such a configuration were to trigger TO/TOP registration, numerous generation facilities would be subject to TO/TOP registration.]

[COMMENT 3 - EXECUTIVE SUMMARY CONCLUSION NO. 5 (Page 3 of Draft)]

5. If a generator is connected to multiple transmission facilities ~~or configured such that an outage of the Generator Interconnection Facility results in the outage of an integrated transmission line (i.e. three-terminal configurations)~~, then those transmission facilities are integrated transmission facilities and should be subjected to the applicable Transmission Owner and Transmission Operator Standard Requirements.

[Note: Generation that connects to an integrated transmission element through T-taps is subject to the requirements of PRC-001-1, PRC-004-1, and PRC-005-1 (as clarified elsewhere in this document), providing equivalent protection to registration of the Generation Interconnection Facilities as a TO/TOP. For any such that exist above 200 kV, the recommendations elsewhere in the GO/TO Draft would ensure that vegetation management requirements would apply to such lines.

The GOP's scope of operation would be limited to opening the disconnect at the generation facility and then opening the disconnect where the tap is located in order to de-energize the line to the generation facility. Both of these operations would be coordinated with the TOP prior to taking any action, and the recommended training requirements proposed elsewhere in the GO/TO Team draft would adequately address any operational issues.

Most generation facilities connected to three terminal lines are connected at voltages below 200 kV. There is some question whether all lines operated at voltages between 100 and 200 kV should be included by default in the Bulk Electric System. Plants allowed to interconnect by tapping an existing line will be relatively small compared to the spectrum of generation facilities.

Requiring generators connected through T-taps to register as TO/TOP would have the practical effect of making numerous small generators already registered as GO and/or GOP that connect through a T-Tap configuration subject to registration as TO/TOP, while allowing all or nearly all large generators to register as only GO/GOP. Extending TO/TOP requirements to Generation Interconnection Facilities connected through T-taps would not improve Bulk Electric System reliability.]

[COMMENT 4 - EXECUTIVE SUMMARY CONCLUSION NO. 6 (Page 3 of Draft)]

6. If a Generator Interconnection Facility is not solely-used to bring the unit output of the generating facility to the grid, then the Generator Interconnection Facility should be subjected to the applicable Transmission Owner and Transmission Operator Standard Requirements. **Sole-use facilities include configurations where a Qualifying Facility's Generation Interconnection Facilities may be used to interconnect one or more electrical customers of the Qualifying Facility's Generation Facility.**

[Note: The above language change is recommended in concert with the response to Item 2 above. Many Generation Facilities (including small facilities) serve the dual purpose of supplying power to one or more industrial facilities and to the grid, with the line serving the customer when the Generation Facility is off-line or at reduced load. This configuration should not force registration as a TO/TOP.]

[COMMENT 5 - ITEM 2 (Page 11 of the Draft)]

2. Affect of interconnection configuration on standard requirements and Applicability

The team discussed the varying system configurations that could exist at the generating unit end of the interconnection facility and on the transmission grid side of the facility. The team quickly concluded that the core issue centered on the applicability of requirements for sole-use interconnection facilities, that is, those facilities whose singular purpose is to connect the generating facility unit to the point of interconnection where the transition to the Transmission Owner's transmission facilities **occurs (including Generation Interconnection Facilities of Qualifying Facilities that share Interconnection Facilities with their electrical host)**. For other configurations in which the interconnection facility is used by other parties to tie to other substations or to customer loads or where a generator is connected to multiple transmission facilities of other parties, these facilities are considered integrated for the purposes of standard applicability and the full spectrum of Transmission Owner and Transmission Operator requirements would apply. ~~Another similar scenario exists whereby a Generator Interconnection Facility connects to the transmission grid as part of a T-tap or three terminal configuration where opening the line results in an outage of an integrated transmission line.~~

[Note1: The above language change offered in concert with the recommended language change to item 5 of the Executive Summary-conclusions regarding T-tap configurations. Generation facilities interconnecting via T-Taps are generally at the lower end of system voltage levels. Large, high-voltage level generation facilities are unlikely to connect using that configuration. Requiring numerous small generation facilities to register as TO/TOP while excluding all or nearly all large generation facilities from such registration would not result in an improvement grid reliability].

[COMMENT 6 - DEFINITION OF GENERATOR INTERCONNECTION FACILITY (Page 16 of the Draft)]

Generator Interconnection Facility (NEW)

Sole-use facility for the purpose of connecting the generating unit(s) to the Point of Interconnection or transmission grid.

[Note: No change recommended to definition, but per the other comments offered above, we request that the GO/TO Team address in the text of the GO/TO Draft that the term “Sole-use Facility” should be interpreted to include Qualifying Facilities that share interconnections with their electrical host.]

[COMMENT 7 - PROPOSED NEW REQUIREMENT FOR TOP-001-1 Requirement Rz (Page 144 of Draft)]

Rz. The Generator Operator shall take the action it deems appropriate to remove from service the Generator Interconnection Facilities when safety is jeopardized or equipment damage is ~~imminent~~ anticipated.

The Generator Operator shall notify the Transmission Operator as soon as practical of the actions taken and the reasons therein.

[Note: suggest changing the word “imminent” to “anticipated”. It would be difficult to demonstrate that damage is “imminent”. This change is suggested to avoid potential interpretation issues during compliance audits, where evidence to support actions taken may be needed.]

[COMMENT 8 - PROPOSED ADDITION OF “and Generator Operator” to REQUIREMENT FOR PER-001-0 R1 (Page 118 of Draft)]

PER-001-0 R1. Each Transmission Operator and Balancing Authority, shall provide operating personnel with the responsibility and authority to implement real-time actions to ensure the stable and reliable operation of the Bulk

Electric System. Each Generator Operator shall provide operating personnel with the responsibility and authority to implement real-time actions to ensure the stable and reliable operation of the Generation Facility, and the responsibility and authority to follow the directives of reliability authorities including the Transmission Operator and Balancing Authority.

TOP TOP-001 R3 coupled with the recommended requirement TOP-001-1, R7 results in full coverage. Therefore, there is no gap

[NOTE1: The above language is suggested to clarify what actions the GOP operator would be authorized to take and the justification for such actions.

The Generator Operator would not normally have the responsibility and authority to implement real-time actions to ensure the stable and reliable operation of the Bulk Electric System unless directed by the appropriate entity. Generator Operators should provide operating personnel with the responsibility and authority to follow the directives from the Transmission Operator and Balancing Authority (and Reliability Coordinator), but the Generator Operator does not have the necessary information to know what actions are required to ensure stable and reliable operation of the Bulk Electric System.]

Generator Requirements at the Transmission Interface — Draft Report.

September 14, 2009

FirstEnergy appreciates the opportunity to review and comment on the draft report aimed at addressing gaps in reliability for generator interconnection facilities at the transmission interface.

FirstEnergy believes the conclusions and recommendations described in the report provide a significant step forward in addressing confusion that presently exists at the transmission owner-generator owner interface and establishes a framework that will ensure a consistent continent wide approach to resolution.

The team has arrived at sound conclusions and describes an excellent path forward to begin the process of revamping the standards to address the interface reliability gaps.

The report describes the need for NERC Glossary definitions for “Generator Interconnection Facility” and “Point of Interconnection”. The intent is to modify applicable standards in a manner that incorporates these terms and avoids modifications to the NERC Rules of Procedure related to entity registration classifications. The proposal also provides a mechanism that avoids transmission owner/transmission operator registration for the vast majority of existing generator owner/operators.

We support the proposal to issue Urgent Action SARs to add/modify NERC Glossary of Terms and issue Urgent Action SARs to begin revision of the applicable reliability standard requirements. FirstEnergy is withholding comment on specific standard/requirements until the Urgent Action SARs are made available for industry review.

Again, FirstEnergy appreciates the team’s hard work and careful consideration of stakeholder feedback received during the September 2008 TO-GO Survey. We look forward to the final report and supporting the work needed to accomplish the team’s vision.

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Electric Power Supply Association Comments on the Report from the Ad Hoc Group for Generator Requirements at the Transmission Interface

The Electric Power Supply Association (EPSA)¹ endorses the recommendations of the *Ad Hoc Group for Generator Requirements at the Transmission Interface*, and offers these comments on the August 14, 2009 Draft Report. Since the NERC's creation of the "GOTO Team" in February, EPSA has been pleased with the Group's progress to better define potential transmission-related requirements that could apply to a generator. Because certain equipment owned and operated by generators may be defined as part of the Bulk Electric System (BES), the GOTO Team explored how best to determine which owner and operating requirements are needed for reliability purposes for these facilities. Competitive suppliers, therefore, generally support quick implementation of the majority of the report recommendations.

EPSA strongly supports the Ad-hoc Group's recommendation that, "NERC and the Regional Entities (REs) should refrain from further registering Generator Owners and Generator Operators as Transmission Owners and Transmission Operators generically by virtue of their Generator Interconnection Facilities." Competitive suppliers are generators and marketers and do not consider themselves transmission entities. However, some EPSA members own certain interconnection facilities that some REs have opted to define as transmission facilities. Such assertions have caused some generators to be considered for registration as Transmission Owners (TOs) or Transmission Operators (TOPs). While generators are willing to comply with the small subset of transmission-related requirements that are germane to their facilities, they do not believe it is appropriate to register them as TOs or TOPs with resulting responsibility for all TO/TOP requirements.

Executive Summary Conclusions Nos. 5 and 6

The Executive Summary Conclusions Nos. 5 and 6 may be erroneously read to apply TO/TOP requirements to small generators not currently registered as such. The Report states that it was intended to, "address gaps in the reliability for interconnection facilities of Generator Owner (GO) and expectations for the Generator Operator (GOP) in operating those facilities." Therefore, the purpose of the Group was not to cause any additional GO/GOPs to be registered as TOs or TOPs. EPSA does not believe this was intention of the GOTO Team and

¹ EPSA is the national trade association representing competitive power suppliers, including generators and marketers. These suppliers, who account for 40 percent of the installed generating capacity in the United States, provide reliable and competitively priced electricity from environmentally responsible facilities serving power markets. Each EPSA member typically operates in four or more NERC regions, and members represent over 600 registered entities in the NERC registry. EPSA seeks to bring the benefits of competition to all power customers. The comments contained in this filing represent the position of EPSA as an organization, but not necessarily the views of any particular member with respect to any issue.

therefore suggests that clarification may be needed to protect against unintended TO/TOP registrations of small generators.

Conclusion No. 5 suggests that a generator should be subject to the full spectrum of TO/TOP requirements if it is connected to multiple transmission facilities or that is connected to grid as part of a T-tap or the terminal configuration. Additionally, in the Report Issue List, Item No. 2 suggests that any generating facility that is not a sole use facility by default would be subject to all TO/TOP requirements. These interpretations of the Report could lead to unintended registration of generating units as TO/TOPs. For example, dual interconnection facilities that operate and are interconnected to more than one market could inadvertently be registered as TO/TOPs under Conclusion No. 5.

Most generation facilities connected to three terminal lines are connected at voltages below 200 kV. Consequently, there is some question whether all lines operated at voltages between 100 and 200 kV should be included by default in the BES. Generation T-taps interconnections are generally at the lower end of system voltage levels. Larger generation facilities connected at high-voltage levels are unlikely to connect using these configurations. Requiring numerous small generation facilities to register as TO/TOP while excluding all or nearly all large generation facilities from such registration would not result in an improvement grid reliability. Therefore, EPSA suggests the Final Report recognize this aspect, so that generators not be mistakenly registered by default as TO/TOPs.

The "sole-use" of a generating facility as used in Conclusion No. 6 and the proposed definition for Generator Interconnection Facility show where potential generator miss-registration could occur. The proposed definition of "Generator Interconnection Facility" is "Sole-use facility for the purpose of connecting the generating unit(s) to the Point of Interconnection or transmission grid." However, Executive Summary Conclusion No. 6 states: "If a Generator Interconnection Facility is not-solely used to bring the unit power of the generating facility to the grid, then the Generator Interconnection Facility should be subjected to the applicable Transmission Owner and Transmission Operator Standard Requirements."

Conclusion No. 6 through its use of the phrase "is not-solely used to bring the unit power of the generating facility to the grid," qualifies the definition of Generator Interconnection Facility. Because such facilities can be used to bring power to the plant, such use would violate the sole use qualification in Conclusion No. 6. Accordingly, EPSA suggests revising Conclusion No. 6 as follows:

If a Generator Interconnection Facility is not-solely used to transfer power between the generating facility and the grid, then the Generator Interconnection Facility should be subjected to the applicable Transmission Owner and Transmission Operator Standard Requirements.

Regional Variation and the 100 kV Criteria

Executive Summary Conclusion No. 1 reads:

Generator Interconnection Facilities operating at a voltage of 100 kV or greater or those deemed critical to the Bulk Electric System by the Regional Entity or the Generator Interconnection Facility are part of the Bulk Electric System for purposes of applying Generator Owner and Generator Operator requirements but not for applying Transmission Owner or Transmission Operator requirements.

Under the current NERC Bulk Electric System (BES) definition, NERC leaves to the REs the option of providing a regional BES definition that may further define which entities are required to register – “generally connected at voltages of 100 kV or greater...” Currently the REs, NERC and FERC are wrestling with this definition and how it relates to regional variation. To avoid any unnecessary disagreement about the BES definition, EPSA recommends deleting any references in the report of the 100 kV criteria. It is important that the findings of the GOTO Team Report not clash with the determinations of the REs.

Vegetation Management and FAC-003-1

EPSA generally supports that generators need to comply with FAC-003-1 under most circumstances but that not all requirements of the standard are applicable in all instances. The GOTO Team Report suggests that the reporting requirements of FAC-003-001, Requirement 3 should apply to all Generators. While EPSA agrees that there can be some applicability for Generator’s with interconnection facilities beyond the property line to report vegetation contacts, only units critical to the reliability of the Bulk Electric System (BES) should be responsible for this Requirement. FAC-003-1, Requirement 3 should only apply to generators when a BES reliability gap is clearly identified. Therefore, the Report’s Recommendation 4 should be conditioned so that only generators determined critical to the BES need to comply with FAC-003-001 Requirement 3.

The Report lays out three proposals regarding the material impact test for Generator Interconnection Facilities. The first proposal is to apply FAC-003-1 to all generator interconnection facilities. The second proposal would apply FAC-003-1 to all Generator Interconnection Facilities operating above 200 kV that extend beyond two tower spans from the generating plant property (two-span test). The third proposal would apply FAC-003-1 to Generator with Generator Interconnection Facilities operating at 200 kV and above that was deemed critical to the BES through rigorous impact test that would use engineering analysis based on system performance expectations.

Generally, competitive suppliers favor proposal 2, the two span test. Proposal 1 blankets all facilities without any consideration of their criticality to system reliability. Proposal 3, while rigorous, uses a transmission planner’s test used for

TPL-003-0. In essence generators would use a “transmission” system performance test to determine their criticality for FAC-003-1 compliance. Consequently, the two-span test applies a directed test that makes the most sense for determining generators applicability to FAC-003-1 compared to the other proposals. The two span test will make a clear, cost-effective applicability determination that best suits generators.

EPSA could potentially support Proposal 3, but it would require the proposed test be more directed to generators. The impact test that determines if the Generation Interconnection Facility is critical to the BES, proposes to check the single line-to-ground fault on the interconnection facility with delayed clearing or stuck breaker. To maintain that this test is a generator based test, the stuck breaker in this analysis should be a generator owned breaker, not a transmission operator breaker. The determination of whether a Generator Interconnection Facility is critical to the BES should be based on the performance of the generator's equipment and facilities, not those of a transmission operator.

Generator and Transmission Operator Coordination and Communication

EPSA supports the recommended structured coordination among generators and TO/TOPs. The interconnected nature of the grid and generating facilities makes generators and TO/TOPs more than just neighbors. The Report acknowledges the importance of this connection and, therefore, the need for communication among generators and transmission owner and operators. Often the relationship has heightened importance due to the location and ownership of physical equipment requiring strong communication ties so that owners can access their physical facilities. Coordinated communications among generators and TOPs is also important for operational purposes. To that end, the Report states:

....the team recognized that the Generator Operator must use reasonable means to coordinate the operation of that facility in order to preserve the reliability of the grid to which it is interconnected, when the facility is energized and synchronized to the grid or when the interconnection facility is about to be de-energized or re-energized to the transmission system. The Generator Operator must understand the potential impact of the actions that they perform on its Generator Interconnection Facilities and must therefore be provided focused training for those responsibilities.

EPSA concurs with the GOTO Team’s assertion that strong coordination and communication must exist so that a generator can be aware of how actions it takes with its Generator Interconnection Facilities affects the TO/TOP with which it is interconnected.

While EPSA supports better communication and coordination with the transmission operator it is strongly opposed any requirement that generators

become certified transmission operators. Generators are open to information sharing that would make them aware of how actions taken on the Generator Interconnection Facilities impact grid reliability. Therefore, EPSA would vehemently oppose if the term “focused training” were interpreted to mean that generators should become NERC certified transmission operators or system operators. In essence, it would be training generators to be transmission operators. The GOTO team’s purpose is to preserve reliability by better outlining generators responsibilities for owned transmission facilities, the Group’s goal has not been to make generators transmission system operators.

In summary, EPSA endorses GOTO Team’s work and its recommendation that any further registration of generators as TO/TOPs, regardless of their size, should end. Moreover, the Report should result in NERC and the REs to implement a plan for de-registering any GO/GOPs that have been inadvertently registered as TO/TOPs. EPSA recommends that determination whether a generator’s transmission facilities are critical to the BES can be done through the two-span test. Sufficient coordination among generators and transmission operators can be best achieved through making generators better aware of how their actions affect grid operations. Implementing this Report will increase the efficiency and effectiveness of the compliance registry process and thus improve reliability.

Dominion Comments NERC's Ad Hoc GO-TO Working Group

Item # Page #	Executive Summary	Initial Comments
6 Page 3	If a GIF is <u>not</u> solely-used to bring the unit output of the generating facility to the grid, <u>then</u> the applicable TO and TOP requirements apply.	This sentence appears to conflict with the definition of the new term Generator Interconnection Facility (GIF) on page 16. As long as the line is radial (even redundant radial) it would exempt from TO/TOP registration. For example, a plant that normally supplies power to both an industrial facility and also to the grid through a radial line would be exempt. A line that serves only load through a radial line with a normally -open secondary feed would fall within the radial exemption
	17 Issues List	
Page 10	1	We find acceptable
Issue 2 Page 11	"The Generator Operator must understand the potential impact of the actions that they perform on its GIF and must therefore be provided focused training for those responsibilities "	Who is performing the training? We are opposed to the training concept. See issue 10 comments
Issue 3 page 12	Seven new Requirements called for to clarify Generator Interconnection facility:	
page 12	(1) The GOP who has responsibility for monitoring the status of the special protection system (SPS) or remedial action scheme at the generating facility for the benefit of the BES reliability should notify the TOP when a change in status or capability occurs.	We find acceptable

page 12	(2) A specialized training program should be developed to train GO on the expectations of operating the Generator Interconnection Facility (GIF) to ensure grid reliability is preserved.	Given that the definition of GIF states <i>“Sole use facility for the purpose of connecting the generating units to the Point of Interconnection or transmission grid.”</i> We are unsure that specialized training is necessary for such a facility and is concerned that this may ‘open the door’ for future attempts to impose NERC certification on GOP. We could support a requirement “that the GOP demonstrates he is aware of his GIF’s configuration and limitations as they relate to his connected generation equipment.
page 12	(3) The GOP shall coordinate the operation of the GIF with the TOP to which it ties to ensure grid reliability is preserved.	We find acceptable
page 13	(4) The TOP has decision-making authority for the point of interconnection (POI).	We find acceptable
page 13	(5) The GOP shall notify the TOP of a change in status of GIF.	We find acceptable
page 13	(6) The GOP shall operate the GIF within Facility Ratings.	We find acceptable
	(7) The GOP shall disconnect the GIF immediately in coordination with the TOP when time permits or as soon as practical thereafter if an overload or other abnormal condition threatens equipment or personnel safety. (Anticipate new standards over time.)	We find acceptable
Page 13	Bullets item discusses in issue 10	
Issue 3 page 13	Should a unit that is part of a special protection system or remedial action scheme that protects the BES be identified for purposes of applying to FAC-003?	We do not have a position on this.

<p>Issue 3 page 13</p>	<p>Should there be a voltage level restriction on the applicability of FAC-003 to a GIF if an unit to which is connected is designate as a blackstart?</p>	<p>We do not understand the correlation with regard to blackstart and voltage level. The NERC Statement of Compliance Registry Criteria identifies GOs to which reliability standards apply. If these are not deemed sufficient by the team, they should address any perceived deficiencies in a different forum. We are not aware of any requirement that TOs designate transmission paths connecting blackstart generators as critical assets. If these exist then perhaps a correct way to proceed with this discussion is through a SAR asking whether transmission facilities and Generator Interconnection Facilities connecting blackstart generators be designated as critical assets.</p>
<p>page 14</p>	<p>4</p>	<p>We find acceptable</p>
<p>page 14</p>	<p>5</p>	<p>We find acceptable</p>
<p>page 14</p>	<p>6</p>	<p>We find acceptable</p>
<p>page 15</p>	<p>7</p>	<p>We find acceptable</p>
<p>Issue 8 page 15</p>	<p>Proposed Definitions – modified or new</p>	
<p>page 15</p>	<p>Definition of Transmission modified- An interconnected group of lines and associated equipment for the movement of transfer of electric energy between points of supply and points at which it is transformed for delivery to customers or is delivered to other electric systems. <i>Generator Interconnection Facility is not included in this definition.</i></p>	<p>We find acceptable</p>
<p>page 15</p>	<p>Definition of Generation Owner modified – Entity that owns and maintains generating units <i>including its Generator Interconnection Facility.</i></p>	<p>We find acceptable</p>
<p>page 15</p>	<p>Definition of Generation Operator modified – The entity that operates generating unit(s) and performs the functions of supplying energy and Interconnection Operations Services. <i>The Generator Operator also operates the Generator Interconnection Facility and is responsible for coordinating with Transmission Operator when the facility is energized or about to be energized to/de-energized from the transmission system.</i></p>	<p>We find acceptable</p>

page 16	Definition of Right-of Way modified – A corridor of land on which electric lines may be located. The <i>owner of the electric lines</i> may own the land in fee, own an easement, or have certain franchise, prescription, or license right to construct and maintain lines.	We find acceptable
page 16	Definition of Vegetation Inspection modified – The systematic examination of <i>Transmission Line or Generator Interconnection Facility Right-of-Way</i> to document vegetation conditions.	We find acceptable
page 16	<i>New definition - Generator Interconnection Facility - Sole use facility for the purpose of connecting the generating units to the Point of Interconnection or transmission grid.</i>	We find acceptable
page 16	<i>New definition - Point of Interconnection - Location at which the Generator Interconnection Facility physically connects to the Transmission Owner’s transmission facilities. When a common owner owns the Generation Interconnection Facility and the Transmission Owner transmission facilities, the Point of Interconnection definition refers to the point at which operating responsibility for the facility changes between the Transmission Operator and the Generation Operator.</i>	We find acceptable
page 16	9	We find acceptable However FAC-003 is discussed in issue 10

<p>Issue 10 Page 17</p>	<p>FAC-003 should apply to GIF unless not deemed critical to the BES. The preferred method to test for criticality is to assess system performance upon application of a single-line-to-ground fault on the interconnection facility with delay clearing or a stuck breaker. Under these conditions, the test for non-criticality would be satisfied if the system response to these contingency events resulted in:</p> <ul style="list-style-type: none"> (1) No cascading outages; (2) the system is stable and operating within applicable ratings; (3) No loss of firm load; (4) No curtailment of 3-rd party firm transfers that is not associated with the loss of the generating plant output directly to the GIP. Unit would be critical regardless if a Blackstart unit. <p>Taken from issue 3 bullet items on page 13</p>	<p>While we could support this, however we also question who would run the necessary studies and therefore we are concerned about secondary ramifications.</p> <p>If the GO, they would have to possess in-house expertise or acquire through contract with consulting firm.</p> <p>If the Transmission Planner, we are concerned that assigning them additional work will result in additional back logs to the interconnection queue process and potentially have adverse impact on staff to perform other transmission studies necessary to support reliability.</p>
<p>Issue 10 Page 17</p>	<p>Only one existing Reliability Standard that is applicable to Transmission Owners (FAC-003-1) should have its applicability expanded to Generator Owners because of GIF, but only on a conditional bases (i.e., if it is critical to the Bulk Electric System). The team deliberated at length on the appropriate threshold test to determine the criticality of the facility to the BES. Three options emerged:</p> <ul style="list-style-type: none"> (1) Apply FAC-003 for all GIF per the current Standards. (2) Follow (1) but provides some rationality for short distance Rights of Way this is generally well within line of sight from the plant. (Apply FAC-003-1 for all GIF operated above 200KV that extend two tower spans (1/2 miles) from the generating plant property. (3) Only apply FAC-003-1 to GIF that operator at 200kV or above and this are deemed critical to the BES. Criticality tests would have Generator Owner coordinating with Transmission Planner to perform an impact based test utilizing similar criteria to that outlined in TPL-003 Table 1 Category C that assesses system performance under scenarios involving more than one contingency event. 	<p>We support option 2. We question who would run the studies necessary if option 3 is chosen (see comments above)</p> <p>Also, we question why option (2) contains a cut-off of 200kv, when BES is 100kv.</p>

Issue 10 Page 18	Whether it is appropriate to require vegetation outage reporting on all GIF above 200KV irrespective of whether the facilities are deemed critical to grid reliability.	We believe this depends on response to question above.
Page 18	11	We find acceptable
Issue 12 Page19	Generator Owner and Generation Operator should not be registered as a Transmission Owner or Transmission Operator, respectively, solely resulting from the Generator Interconnection Facilities as defined herein.	We support.
Issue 12 Page19	13	We find acceptable
Issue 12 Page19	14	we do not recall having seen these 'notes to the industry' and quite frankly, do not agree with such activity as this is nothing less than circumvention of the NERC standards development process
Issue 12 Page19	15	we do not recall having seen these 'notes to the industry' and quite frankly, do not agree with such activity as this is nothing less than circumvention of the NERC standards development process
Issue 12 Page19	16	We find acceptable
Issue 12 Page 20	17	We find acceptable

Comments on “*Report from the Ad Hoc Group for Generator Requirements at the Transmission Interface*” dated August 14, 2009

General Comment: The report is a welcome approach to resolving the issue which has been hounding Generator Owners and Operators. The Team did an outstanding job in addressing the myriad of issues involved.

We do have a couple of specific comments.

Issue 3. Review GO/GOP Requirements to identify reliability gaps (Page 13 Paragraph 2): When referring to a black start resource, it should be clear that the criticality would apply to a black start unit (or plant) as opposed to units identified in black start restoration plans. With respect to the ad hoc group’s request for comments on applicability of FAC-003 (Vegetation Management) to the voltage level of the Generator Interconnection Facility of units designated as blackstart; we believe this would be covered under the selected proposal. If Proposal 2 (two tower spans) or Proposal 3 (the test for criticality) is adopted, then the result would be a 200 kV level as a minimum. Reclamation favors Proposal 2 as it would be relatively straight forward. Most of the vegetation is easily observed and in many cases, there is no significant vegetation near the facility. For many Generator Interconnection Facilities the entire interconnection is within sight of the plant and vegetation is sparse and easily maintained. For these facilities the full range of FAC-003 Requirements appears to be overkill. We would suggest that a streamlined approach be adopted for these instances.

Issue 8. Review NERC Glossary definitions for Transmission, Generator Owner, Generator Operator, Transmission Owner, and Transmission Operator (page 16 Paragraph 1): The ad hoc group did not recommend changes to several terms including Transmission Line. We believe it would provide more clarity if the term Transmission Line were modified to explicitly exclude the sole use generation interconnection facilities.

Appendix 1 — Review of NERC Reliability Standards Requirements

The applicability for the modified standards should reflect the changes

Standard	Requirement number	Report Page	Comment
CIP 002	R1.2.4	25	The language should be revised as follows: Systems and facilities critical to system restoration, including blackstart generators <u>and their attendant Generator Interconnection Facilities</u> , and substations in the electrical path of transmission lines used for initial system restoration.

Standard	Requirement number	Report Page	Comment
MOD 010	R1, R2	109	The language should be revised as follows: The Transmission Owners, Transmission Planners, Generator Owners (for generators and Generator Interconnection Facilities), and Resource Planners
MOD 012	R1, R2	110	The language should be revised as follows: The Transmission Owners, Transmission Planners, Generator Owners (for generators and Generator Interconnection Facilities), and Resource Planners
PER 002	R1	118	The following should be added to this requirement: Rx. Each Generator Operator shall implement an initial and continuing training program for all operating personnel that are responsible for operating the Generator Interconnection Facilities that verifies the personnel's ability and understanding to operate the equipment in a reliable manner.
	R2	119	Following text should be removed from this requirement: Rx. Each Generator Operator shall implement an initial and continuing training program for all operating personnel that are responsible for operating the Generator Interconnection Facilities that verifies the personnel's ability and understanding to operate the equipment in a reliable manner.
TOP 002	R14.2	150	The addition is not needed as it may be duplicated under TOP 003 R1.1 for outages, PRC 001 R 2.1 for equipment failures, and FAC 009 R2 for changes in equipment rating.

GOTO Report Comments - Consumers Energy

On page 18, the group makes the following statement: "The team also discussed whether or not it was appropriate to require vegetation outage reporting on all Generation interconnection Facilities above 200kv irrespective of whether the facilities are deemed critical to grid reliability." We think we need to make it clear the purpose of the NERC Reliability Standards is to ensure reliability of the BES and are not intended to be a means groups can use for data collection.

On page 5, the Team proposes the Regional Entity identify the critical facilities. Which Regional Entity identify is the Team identifying? What requirements are being placed on the Regional Entity to ensure timely notification to the Generator Operators?

The Team should exclude from the reporting requirements generator interconnection facilities which are solely on the generator's property.

We agree with recommendations 5, 6, 7 on page 5.

**Comments of KGen Power Management Inc. (“KGen Power”) on
Draft Report from the Ad Hoc Group for Generator Requirements
at the Transmission Interface (“Draft Report”)**

KGen Power supports the conclusion in the Draft Report that NERC should refrain from registering entities as Transmission Owner (“TO”) or Transmission Operator (“TOP”) based on their ownership of generator interconnection facilities. Reliability with respect to generator interconnection facilities can be fully addressed by the recommendations in the Draft Report for discrete changes to the Generator Owner (“GO”) and Generator Operator (“GOP”) standards to clarify which GO/GOP standards and requirements apply equally to generator interconnection equipment.

KGen Power is concerned that the Draft Report is unclear as to the limited situations in which the owner or operator of generation interconnection facilities might nonetheless be considered for registration as TO or TOP. The Draft Report states:

For other configurations in which the interconnection facility is used by other parties to tie to other substations or to customer loads or where a generator is connected to multiple transmission facilities of other parties, these facilities are considered integrated for the purposes of standard applicability and the full spectrum of Transmission Owner and Transmission Operator requirements would apply. *Draft Report* at 11.

KGen Power does not believe that the Draft Report intended to suggest that generators would be registered as TO or TOP simply because the generator is connected to facilities owned jointly by two or more utilities. For example, the KGen Murray generation facility is connected to a switching station that is jointly owned by Tennessee Valley Authority (“TVA”) and the City of Dalton (“Dalton”). While this interconnection configuration allows KGen Murray to deliver energy to either TVA or Dalton, the electrical configuration is no different than would be the case if the switching station were owned by a single utility. There is a single radial interconnection facility connecting the generation facility to the switching station, which will at all times be operated by the owners of the switching station (not KGen Murray) or their designee (currently, Georgia Power Company). The switching station operator implements schedules of energy to the TVA or Dalton systems that are delivered over the radial line to the switching station. KGen Murray has no authority to open breakers or take any other action with respect to the switching station, even if circumstances arise that may affect KGen Murray’s generation facility. No energy from the TVA or Dalton system flows at any time onto facilities owned by KGen Murray. In summary, the configuration of the KGen Murray interconnection facilities is a “sole-use interconnection facilit[y], that is, those facilities whose singular purpose is to connect the generating facility unit to the point of interconnection where the transition to the Transmission Owner’s transmission facilities occurs.” *Draft Report* at 11. To avoid any ambiguity, the final report should clarify that entities will not be registered as TO or TOP based on their ownership of interconnection facilities that connect to a jointly owned substation or switching station.

The Draft Report also seeks comments on three proposals for application of the vegetation management Reliability Standard FAC-003-1 to generator interconnection facilities, i.e., apply to (1) all generator interconnection facilities; (2) all generator interconnection facilities except those

that would qualify for a short-distance exemption; and (3) only to generator interconnection facilities that meet a criticality standard. *Draft Report* at 17. KGen Power supports options (1) and (2) because both can be implemented by applying a straightforward rule. A rule that requires assessment of the potential impacts of performance or nonperformance of interconnection facilities, as in option (3), will potentially lead to controversy and confusion. KGen Power believes that, with respect to application of vegetation management standards, it is preferable to apply an objective standard, as proposed in options (1) and (2).

September 14, 2009

Re: Draft Report on Generator Requirements at the Transmission Interface

The Electricity Consumers Resource Council (ELCON) appreciates the opportunity to comment on the draft Report from the Ad Hoc Group for Generator Requirements at the Transmission Interface, Date August 14, 2009.

ELCON applauds the content of the draft report and urges NERC to ratify the document and its recommendations. We commend the Ad Hoc Group for the timely execution of its task and responsibilities.

ELCON also applauds NERC for thinking outside the box and enabling this specific process to be established. This process should serve as a model for resolving and clarifying similar issues of contention.

Respectfully,

Dr. John A. Anderson
Member, Standards Committee (SE), Operating Committee (OC) & Member Representatives
Committee (MRC)

John P. Hughes
Member, Compliance and Certification Committee (CCC)

GOTO Report Comments

Comments of ISO New England Inc. re- the draft report on Generator Requirements at the Transmission Interface.

Executive Summary

Page 3, Conclusion 3 should be reworded to state that “A Generator Interconnection Facility be considered as though part of the generator facility **specifically for the purposes of applying Reliability Standards to a Generator Owner/Operator.**” This will avoid a discrepancy between this document and the FERC approved Large Generator Interconnection Agreements (LGIAs) and Large Generator Interconnection Procedures (LGIPs) that do not define a Generator Interconnection Facility as part of the generating facility.

Page 3, Conclusion 5 “connected to multiple transmission facilities” needs better definition --- What is meant by this in addition to (e.g. a line position in a bus?). Typical interconnections involve the installation of a three-breaker ring bus at the point where the generation interconnects into the transmission line. The Transmission Owner would then own the three-breaker ring bus. Is a generator connected in this way considered to be interconnecting into multiple transmission facilities?

Page 3, Conclusion 6 should specify what the other uses are and perhaps exclude station service.

Issues List

Page 13. The test for non-criticality is confusing. Most interconnection facilities are designed and operated to not result in any of the listed results occurring because a SLG with delayed clearing is a criteria contingency. Thus all properly designed interconnection facilities would be defined as non-critical using the described methodology. We agree that the relaying associated with any unit that is part of a SPS designed to protect the BES should be subject to the standards that apply to your critical definition.

Page 13 – Blackstart Resource – All units designated as a blackstart resource **are not** critical for the purposes of FAC-003. It is suggested that this be re-written to state, “All blackstart resources that are **material to** and designated as part of a transmission operator entity’s restoration plan are deemed critical for the purposes of FAC-003.” “Material blackstart units are defined as those units that are part of a system restoration plan’s key facilities which are used to initiate system restoration and establish the basic minimum power system following a system blackout.”

Page 13 - Voltage Level Restriction. A black start unit that is **material to** and designated as part of a transmission operator entity’s restoration plan should come under the applicable standards regardless of the voltage class because such units need reliable connectivity to be part of a credible black start plan.

Page 14 - Point of Interconnection Definition – to be consistent with FERC Tariff language, the term “Point of Change of Ownership”, should be used as the definition here.

Page 17 - Material Impact Test for Generator Interconnection Facilities – (See earlier comment on page 13, test for non-criticality, for consideration here as well.) In addition, we believe that Proposal 2 has merit for the purposes described.

**Initial Comments of Sempra Generation
on the August 14, 2009 “Draft Report of the Ad Hoc Group
for Generator Requirements at the Transmission Interface”**

Sempra Generation submits the following initial comments in response to the August 14, 2009 Draft Report of the Ad Hoc Group for Generator Requirements at the Transmission Interface (“Draft Report”).

Sempra Generation is the parent company of several generation-owning subsidiaries in the Western Electricity Coordinating Council region, including Mesquite Power, LLC, which is currently registered as both a Generator Owner/Generator Operator (“GO/GOP”) as well as a Transmission Owner/Transmission Operator (“TO/TOP”) due to the ownership of generator interconnection facilities. In the brief comments below, Sempra Generation confines its discussion to general matters, and reserves the right to supplement its comments to address specific issues at a future time, as appropriate.

Sempra Generation commends the efforts of the NERC ad hoc group (“GO/TO Task Force”) over the past several months on this important issue. By all appearances, the Draft Report is the product of detailed analysis and thoughtful consideration of the myriad issues surrounding the reliability implications of ownership and operation of generator interconnection facilities. It is noteworthy – though hardly surprising – that, after many months of study, the GO/TO Task Force, a balanced group comprised of members from a broad spectrum of functional categories, concluded that only modest changes to the Reliability Standards would be required in order to ensure that generator interconnection facilities are operated reliably.

When implemented, the recommendations included in the Draft Report should go a long way toward providing the regulatory and compliance certainty needed by generators who own or operate generator interconnection facilities. When the issue of generator registration as TO/TOPs first arose, it was quite clear that very little – if any – consideration had been given to the unique nature of generator interconnection facilities

and the interplay of those facilities within the NERC Reliability Standards when the Standards were first drafted and submitted to FERC for approval. So in this sense, the work of the GO/TO Task Force represents the first time that an objective analysis of this issue has taken place outside of the context of a registration dispute.

Overall, Sempra Generation agrees that the Draft Report strikes the appropriate balance: The Draft Report recognizes the importance of ensuring that no gaps exist that would compromise the reliability of the grid, and makes specific recommendations to accomplish that goal. At the same time, the Draft Report makes clear that it would be inappropriate and unnecessary to subject generators to the full panoply of TO/TOP Standards with the intent to ensure that reliability.

In reviewing the Draft Report, NERC must ensure that no unintended consequences would result from implementing the various detailed recommendations. For instance, NERC should consider whether, as drafted, the recommendations in the Draft Report might inadvertently include the interconnection configurations of smaller generators – particularly wind and solar facilities – in the category of generator interconnection facilities subjected to the TO/TOP Reliability Standards. Similarly, while operator training may be appropriate for those entities that own or operate generator interconnection facilities, such training would need to be tailored to recognize the limited and discrete nature of the facilities, and the commensurately limited risk that the operation of those facilities poses to the grid. Finally, although communication of information (outage schedules, day-ahead schedules, seasonal schedules, etc.) is important, the extent and timing of the information required should be at the discretion of what the Balancing Authority feels it needs.

While, as noted above, there will undoubtedly be details that will need to be ironed out, Sempra Generation urges NERC to move swiftly to adopt the recommendations set forth in the Draft Report. In particular, Sempra Generation agrees with the recommendation that NERC and the Regional Entities refrain from further registration of GO/GOPs as TO/TOPs by virtue of their generator interconnection

facilities. This recommendation is sensible, in that it allows for NERC to consider the other aspects of the Draft Report and implement the other recommended changes, while at the same time avoiding a situation where generators are needlessly subjected to Reliability Standards that may ultimately be found to be inapplicable. Similarly, Sempra Generation supports the GO/TO Task Force recommendation that NERC and the Regional Entities implement a plan to address the de-registering of entities that have been registered as TO/TOPs by virtue of their generator interconnection facilities. In the event the substantive recommendations contained in the Draft Report are adopted, continuing to subject a handful of entities to the full slate of TO/TOP Reliability Standards would be clearly contrary to the requirement that the Reliability Standards be implemented and enforced in a non-discriminatory manner.

In sum, Sempra Generation thanks NERC for recognizing the urgent need to initiate this inquiry, and applauds the efforts of the GO/TO Task Force. Sempra Generation appreciates the opportunity to take part in this important discussion, and looks forward to participating in future industry efforts to resolve the issue.

Request for Comment:

Generator Requirements at the Transmission Interface — Draft Report

National Grid has reviewed the SAR with a focus on the Conclusions and Recommendation. National Grid has the following comments:

1. The SAR is trying to prevent, as much as possible, the Generator Owner from having to register as a Transmission Owner or Operator if they own the Generator Interconnection. We are generically concerned about that approach. We think it creates an exposure to exempting Transmission facilities from meeting NERC standards based on ownership and use. We recognize that they are trying to adjust the language in the various standards to cover the potential holes that are being created, but we are not convinced that they can without creating other issues. For example in item 6, it states that the “If a Generator Interconnection Facility is not solely-used to bring the unit output of the generating facility to the grid, then the Generator Interconnection Facility should be subjected to the applicable Transmission Owner and Transmission Operator Standard Requirements”, it is suggesting the converse may be true, which would imply that if it is partially or solely used, “then the Generator Interconnection Facility should” not “be subjected to the applicable Transmission Owner and Transmission Operator Standard Requirements,” which isn’t right if the facilities are Transmission. The reference to solely-used is getting to function and design, but it is qualified by ownership and use, when they associated it with Generation Interconnection. We don’t think that Transmission Owner and Transmission Operator Standard Requirements should be based on ownership and use. It should be based on function and design and we don’t think that we can separate the issues with how they are approaching it.
2. Why are Recommendations ‘urgent’? The only place the term ‘urgent’ was used was in the Recommendation. We don’t think they have supported the need for urgency.

3. We don't agree with Recommendation 5. "Modify the NERC Rules of Procedure, NERC Compliance Registry Criteria, and other documents as necessary to reflect that a Generator Owner should not be registered as a Transmission Owner and a Generator Operator should not be registered as a Transmission Operator on the basis of their Generator Interconnection Facilities," which effectively provides for an exemption for Generation Owners from registering as Transmission Owners and Transmission Operators. This language is suggestive that ownership and use takes precedence for determining applicability of NERC Standards over design.
4. Recommendations 6 & 7 follow from Recommendation 5, so we don't agree with them either.
5. They have not discussed alternatives. To keep the responsibilities pure, Generators may sell their transmission assets to a Transmission Owner or they could contract the management of the assets to a Transmission Owner. If they were to do either of these things, then we don't think there would be a need for this SAR.

In conclusion, National Grid is concerned with the complexities that this SAR could lead to in the NERC Standards, not only related to this application, but it could provide a precedent that could permeate the Standards for other special interest issues as well.

**Report and Recommendations of NERC Ad Hoc Group:
“Generator Requirements at the Transmission Interface”**

**Comments of Competitive Power Ventures, Inc.
(September 14, 2009)**

Competitive Power Ventures (CPV) appreciates the opportunity to comment on the Report and Recommendations of the Ad Hoc Group for Generator Requirements at the Transmission Interface (Report). CPV applauds the Ad Hoc Group’s effort and strongly encourages NERC to adopt and move forward with the recommendations as soon possible.

Nearly a year ago NERC launched this effort to determine whether potential “gap” issues associated with Interconnection Facilities justified generators being registered as Transmission Owners and Transmission System Operators (TO/TOPs).¹ This review process began with a survey to obtain feedback to “determine if a better approach is appropriate to address the issue in the long-term.” A substantial majority of the 110-plus survey responses expressed the view that it was unnecessary to register generators as TO/TOPs. Rather, it is generally believed that the best approach is to determine more precisely exactly what gaps exist and follow up with additional GO/GOP standards that target those concerns. The Ad Hoc Group’s work provides an excellent foundation to pursue that solution.

CPV agrees with the Ad Hoc Group’s fundamental determination that Interconnection Facilities should be considered part of the generating facility, and consequently do not amount to “transmission systems” for registration purposes. Further, Interconnection Facilities are not operationally part of the integrated Bulk Electric System (BES), and therefore are not in and of themselves “transmission systems” in the sense envisioned and addressed in the TO/TOP Requirements. The TO/TOP Requirements were not drafted with the expectation, purpose or intention that generators would be performing them.

The standards Generators are already required to perform as GO/GOPs, supplemented where technically necessary to address gap concerns, is the most sensible and effective approach to reliability issues associated with Interconnection

¹ Only one of the eight Regional Entities had adopted a strong position supporting such registrations. Indeed, it became apparent that many Regional Entities had opposing views. This lack of Regional uniformity created a serious risk of inconsistent treatment of similarly situated generators. The Report and Recommendations provide a sound basis for avoiding the operational and legal problems inherent in this fragmented, unduly burdensome approach.

Facilities. When finalized and implemented, the Report and Recommendations will adequately address the potential impact on the BES (i.e., beyond the point of interconnection) of certain activities associated with Interconnection Facilities. Merely extending all of the TO/TOP standards to certain generators has resulted in unwieldy and difficult compliance issues. Pursuing this approach forces compliance staff to unilaterally manufacture interpretations to make the TO/TOP Requirements "fit" generator Interconnection Facilities on a "case-by-case" basis. The approach set forth in the Report and Recommendations reconciles reliability concerns with a more reasonable process that will promote consistency, and make compliance exposure more manageable.

CPV looks forward to working with NERC and industry stakeholders to determine how best to implement the Recommendations. For this effort to be meaningful, NERC should strongly encourage the active participation and engagement of all interested entities, including Regional Entities. Finally, it is imperative for this work to advance as quickly as possible, in order for generators currently registered as TO/TOPs to transition out of their current circumstances by deregistering and focusing on a more appropriate set of additional requirements—as generators.

Ameren comments are as follows:

1. Generator Interconnection Facility (GIF) definition is inadequate. The team report assumes the generator is responsible for the entire GIF regardless of a situation where part of the GIF is owned by a TO.
2. We are concerned how FAC-003 will be applied to AUE generators, connected at 34 and 69kV with a connection to BES facilities miles away from the location of the generator.



North American Electric Reliability Corporation
Standards Process Administrator
116-390 Village Blvd.
Princeton, NJ 08540

September 9, 2009

Regarding: GOTO Report Comments

To whom it may concern,

First Wind First is a GO and GOP and applauds the efforts of the Ad Hoc Group for Generator Requirements at the Transmission Interface (GOTO Team) for providing a sound approach to resolving reliability gaps associated with the conductors and related equipment used to interface a generator to the electric system.

First Wind believes the approach of treating these conductors and related equipment as part of the generator is appropriate and we agree with the GOTO Team that the Standards designed for TO and TOPs, who are responsible for providing open access and operating the grid in a reliable manner to serve load, should not be applied to a GO or GOP. We agree with the GOTO Team that the gaps in Standards applicable to GO and GOPs are currently covered by a few Standards applicable to TO and TOPs and agree that this alone should result in a policy to hold a GO/GOP accountable to Standards that are intended to be performed by a TOP function. Such broad action only increases the cost of electricity without adding any additional benefit to grid reliability. First Wind also agrees the GOTO Team appropriately identified the gaps that Generator Owners and Operators should be held accountable for maintaining a reliable grid with clarifications addressed below.

- **Definition of Generator Interconnection Facility**

“Sole-use facility for the purpose of connecting the generating unit(s) to the Point of Interconnection or transmission grid.”

We recommend the definition is refined to remove the word “sole-use” as this term is potential ambiguous and can be treated differently across regions. Instead we recommend that the definition be expanded to more specifically classify those conductors and related equipment that should be classified as a Generator Interconnection Facility to address the intent behind the function. We offer the alternative definition:

Alternative Definition for Generator Interconnection Facility

“A group of electric system elements used exclusively under normal conditions to deliver energy produced from the generating unit(s) to the Point of Interconnection with transmission grid and to serve station power load for the same generating unit(s). A Generator Interconnection facility would not be used to serve load under normal conditions, provide transmission switching

capabilities or be used to import or export power outside of the control area. It would not be required by FERC to have an Open Access Tariff.”

We added the word under normal conditions to cover potential issues where the generator could be used to provide backup power during certain contingencies to a facility that would seldom occur. The intent is not to include black start generation.

- **Training Program for Operators**

We ask the GOTO team to explain the reason for concluding that PER-001 should apply to a Generator. PER-001 is to address real-time operational decision. The GOTO team has appropriately recommended the TOP shall have decision-making authority over the Point of Interconnection at all times and we feel the training to perform the real time operational decisions are appropriate to only those who are performing this function. Furthermore, the TOP is the operator for real-time conditions and we believe that requiring the Generator Operators to complete training to make such decisions to maintain the grid in real-time could cause conflicting decisions. Clearly the TOP is in the best position to make the operating decisions required for real-time operations and training for a Generator Operator, other than the ability to maintain and monitor protection system equipment covered in PRC-005, is unnecessary and does not improve the reliability of the electric system.

- **Operating Equipment Required for Deviations to Operating Conditions**

We ask the GOTO team to explain the intent and type of equipment in mind for recording deviations to operating conditions. Is the intent to require Disturbance Monitoring Equipment? We cannot provide additional comments unless we better understand the intent.

First Wind thanks you for the opportunity to comment and wishes to assist in this process where needed.

Sincerely,

Mary Jo Cooper
Manager, Regulatory Reporting

Email: mjcooper2@firstwind.com
Ph. 415-671-4456

09/14/09

NextEra Energy Resources, LLC Comments on the “Report from the Ad Hoc Group for Generator Requirements at the Transmission Interface.”

General

NextEra Energy Resources, LLC applauds the effort of the GO/TO ad hoc group in addressing a complicated issue. The report is well written and provides clear and reasoned thinking to each of the issues surrounding the problem of Generator Interconnection Facilities. We thank the team and look forward to future drafts as this process evolves. The following comments track the linear progression of the text. Summary comments precede the section specific comments.

Discussion: Historical Perspective

On page 7 the report states “Significantly, FERC indicated that its finding in this case is case-specific and not one that all tie-line owners and operators should now be registered as Transmission Owners and Transmission Operators.” The report manages to address the issue of potential reliability gaps without falling into the trap of treating the Harquahala ruling as precedent.

NextEra would suggest that even more should be done to de-emphasize the impact or relevance of the Harquahala case for broad application. FERC clearly intended that the registration issues be treated on a case-by-case basis. It may be inferred that the Harquahala case provides no basis for asserting that there is even an issue or problem to

Exhibit 1: Issue List #1

NextEra supports the construct proposed in the group’s treatment of the first issue. While Generator Interconnection Facilities may include high voltage equipment including lead-lines, there are key differences from integrated transmission elements which should preclude automatic registration of Generator Owners as Transmission Owners and Operators. The group states a seemingly obvious point that the Transmission Owner and Operator “...has operating responsibility for the Point of Interconnection,” but emphasis should be placed on this statement. Generator Owners, in many cases, have no operational responsibility for the Bulk Electric System beyond the Point of Interconnection. Reliability as a function of system operations is handled by another party, one with whom the Generator may only have a commercial relationship with.

Exhibit 1: Issue List #2

On page 11, the report states “Another similar scenario exists whereby a Generator Interconnection Facility connects to the transmission grid as part of a T-tap or three terminal configuration where opening the line results in an outage of an integrated transmission line.” What about cases where opening the generator lead-line does not result in a transmission line outage? Does this still qualify for sole-use as defined by the group’s treatment of Issue #2?

The group rightly points out that in many cases the Generator Owner does not have independent access or control over Generator Interconnection Facilities. The ultimate operator of these facilities is commonly the host Transmission company.

Exhibit 1: Issue List #3 & #10

In the investigation for potential reliability gaps, the group uncovered issues surrounding a number of standards including FAC-003. As the only standard recommended by the to be applied to generators in total, FAC-003 provides for coverage for those Generator Interconnection Facilities where vegetation may cause potential outages. NextEra respectfully requests that the group re-evaluate this potential reliability gap, as it is not immediately clear application of FAC-003 to Generators would increase or enhance reliability.

That integrated transmission circuits require a level of vegetation management that would warrant a prescribed system such as NERC Reliability Standard FAC-003 may appear as conventional wisdom. Generator Interconnection Facilities, as noted in the group's report, are not integrated transmission elements and as such may not require the same scrutiny. The loss of a generator lead-line due to vegetation, on a sole-use facility, should affect only the outflow of power from the generation site(s). Bulk transfers of power should not be affected.

Applying a mandatory Reliability Standard with the risk of significant fines and/or sanctions should be done in order to improve or preserve reliability. The analysis provided in the report does not present any evidence that a reliability gap exists or that reliability of the Bulk Electric System has been threatened. The conclusion that an entire class of functional entities should be exposed to increased compliance risk and have to bear significant financial burdens, should be founded on some form of measurable data. How many generator outages were caused by vegetation? Were any system disturbances caused by Generator Interconnection Facility vegetation related outages? What actual threats exist to the Bulk Electric System by faults at the Generator Interconnection Facility related to vegetation?

Without a clear understanding of the actual risks posed by exempting Generator Owners from FAC-003, a claim that further system studies are required to measure unit criticality is unsupported. The burden of proof should not be shifted to the Generators when the actual risks to the Bulk Electric System have not been clearly defined. A comprehensive risk analysis should be performed prior to assigning new responsibilities.

Issue #10 provides three proposals for measuring material impact for Generator Interconnection Facilities. NextEra supports the idea of measuring materiality on a studies basis rather than a bright line approach. Therefore Proposals #1 and #2 would not be preferable and fail to clearly identify which Generators have a significant impact on the Bulk Electric System. Applying the requirements of FAC-003, or any standard for that matter, to all generators simply because of the Point of Interconnection exceeds 100KV provides only a limited benefit to reliability at an enormous cost.

The proposed test for criticality, consistent with TPL-003-0 Table 1 Category C, studies the impact a single-line-to-ground fault with delayed clearing or stuck breaker. As a Category C event, multiple contingencies must be studied and in many cases the study will be performed by a party not affiliated with the Generator Owner. Between the Transmission Planner and the unaffiliated Generation Owner, who determines the basis for the study? Who selects the credible multiple contingencies? When the study is finished, who mediates if the Generator Owner objects to the findings or the method by which the study was performed?

Logistically, the relationship between Generator Owner and Transmission Planner for non-integrated companies complicates the issue. What will compel the Transmission Planner to perform the study or to perform the study in a reasonable amount of time? Will Generators be allowed to pay third-parties to conduct the study? Will the Transmission Planners provide the necessary study data to a third-party?

In theory, the notion of solving the materiality conundrum is attractive. Studies are scientific and should provide an objective view of materiality. In practice though, a studies-based approach needs more careful examination and planning before it should be put forward as a viable solution.

The key problem will be the issue of timing. The compliance status of Generators awaiting the findings of a study must be determined. Are Generators exempt from the requirements of FAC-003 until a study confirms or denies materiality, or must they comply until exonerated? Ideally, no functional entity should be exposed to the risks of mandatory compliance until after there is sufficient cause to warrant their inclusion in the compliance regime.

Appendix 1 – Review of NERC Reliability Standards Requirements Comments

1. FAC-008 R1 and R1.2.1 – Although the addition of Generator Interconnection Facilities to R1.2.1 is a good one, perhaps the team should consider just adding that statement to the main R1 requirement. By changing R1.2.1, the team is repeating a statement already covered.
2. PER-001 and PER-002 – The team should consider adding the “GOP” registration to the applicability table. As is currently written, the Text of Requirement states action for the Generator Operator, however the table with the applicability does not imply GOP.
3. TOP-002 R14 – The team should consider adding the statement “including Generation Interconnection Facility Status” to R14 instead of R14.3.
4. TOP-006 – The team should consider redefining the Text of Requirement to further specify what the role of the Generator Operator is since there may be instances where equipment to perform the monitoring task may not be available or retrofitting would be required.
5. TOP-008 R3 – The team should consider whether Generator Operators have all the information to make a determination on disconnecting due to high/low voltage or other system condition. Some of this information may be programmed into

individual site relay settings which, under certain system conditions, automatically trip off units. What would the evidence for this standard consist of in this area? What would the document retention requirement be since the relays only store information for a short period of time?

6. VAR-001 R8 – The team should consider circumstances where the Generator Operator owns the equipment but due to the dynamic nature of it, does not actually operate it, in certain circumstances. For example, a site could have dynamic capacitors/compensators that are SCADA operators by the Transmission Operator.

Report from the Ad Hoc Group for Generator Requirements at the Transmission Interface

Comments of TransAlta Corporation Submitted September 14, 2009

TransAlta Corporation appreciates the opportunity to comment on the recommendations from the Ad Hoc Group for Generator Requirements at the Transmission Interface. We recognize this is a very difficult and complex topic and we applaud the efforts of the Ad Hoc Group (the Group) in preparing what we believe to be a very strong and well balanced paper. TransAlta encourages NERC to adopt the recommendations put forward by the Group and to proceed with the implementation of those recommendations as soon as possible.

TransAlta agrees with the conclusions put forth by the Group. In particular that Generation Interconnection Facilities operating at a voltage of 100 kV or greater make the Generator Interconnection Facility part of the Bulk Electric System for purposes of applying Generator Owner (GO) and Generator Operator (GOP) requirements but not for applying Transmission Owner or Transmission Operator requirements. TransAlta strongly supports the Group's recommendation that a GO or GOP should not be registered as a Transmission Owner (TO) or Transmission Operator (TOP) by virtue of owning or operating its Generator Interconnection Facility but instead that some of the GO and GOP standards should be modified to ensure complete reliability coverage of the Generator Interconnection Facility.

The Group has done a very good job in identifying the reliability coverage necessary for the Generator Interconnection Facility and their proposed amendments to the GO and GOP standards to cover those gaps are, in our opinion, reasonable and should be adopted. Overall, TransAlta believes this approach is more manageable and sustainable than the approach NERC has been using to date to address this issue, which is a requirement by requirement negotiation and registration of each GO and GOP as a TO/TOP. The approach put forward in this paper provides for a common set of requirements that will apply to all generators and that are written specifically for generators such that they are able to comply with them. Additionally, from the perspective of those performing the audits, these changes to the GO

and GOP standards will be much easier to audit as they will be consistent across all GO and GOPs and there is no requirement on the auditor to understand any asset specific standards that may have resulted from any negotiations.

We would encourage NERC to move forward with this report as quickly as possible to provide certainty to all GO and GOPs regarding this long outstanding issue. This would also provide clarity to those GO and GOPs that have already been registered as TO and TOPs by providing them with a clearly defined path forward which would allow them to deregister as TO and TOPs and begin to comply with the GO and GOP standards as recommended in this paper.

We look forward to working with NERC and industry stakeholders over the upcoming months as this process continues to move forward. Thank you for taking the time to consider our comments.

September 14, 2009

**THE PSEG COMPANIES COMMENTS ON THE REPORT FROM THE AD HOC
GROUP FOR GENERATOR REQUIREMENTS AT THE TRANSMISSION INTERFACE**

Public Service Electric and Gas Company (“PSE&G”), PSEG Power LLC (“PSEG Power”) and PSEG Energy Resources & Trade LLC (“PSEG ER&T”) (collectively the “PSEG Companies”) respectfully submit these limited comments to the above referenced *Ad Hoc Group for Generator Requirements at the Transmission Interface* draft report (“Report”).

The PSEG Companies are each wholly owned, direct and indirect subsidiaries of Public Service Enterprise Group Incorporated (“PSEG”). PSEG has many operating subsidiaries that are Registered Entities with NERC, including several that are registered as Generation Owners, and thus the PSEG Companies have a direct interest in the issue being addressed by the Report.

The PSEG Companies generally support the recommendations of the Report and further support the Ad Hoc Group (“Group”) Team’s efforts to determine which owner and operating requirements are needed for reliability purposes for certain equipment owned and operated by generators that may be defined as part of the Bulk Electric System (“BES”).

The PSEG Companies strongly support the Group’s Recommendation No. 6 that “NERC should refrain from further registering Generator Owners and Generator Operators as Transmission Owners and Transmission Operators

generically by virtue of their Generation Interconnection Facilities.”¹ The impact of the Harquahala registration decision² manifested itself in a concern by Generation Operators and Generation Owners over the criteria that would be utilized to determine whether Generation Operators and Generation Owners would also be subject to registration as Transmission Owners and Transmission Operators. The Report is a step in the right direction in ensuring that Registered Entities have clarity and certainty as to the nature and extent of their compliance obligations.

In addition, the PSEG Companies support Conclusion No. 2 of the Group that a “Generation Owner or Generation Operator that that owns or operates a Generator Interconnection Facility that is a sole-use facility connecting the generator to the grid should not be registered as a Transmission Owner or Transmission Operator, by virtue of owning or operating its Generator Interconnection Facility.”³

Based upon Conclusion No. 2, the Group determined that there is no basis for assigning existing Transmission Owner and Transmission Operator Standard Requirements to a Generator Operator and/or Generator Owner, with one exception. The Group recommends that Standard FAC-003-001 (“Vegetation Management”) apply to Generator Owners of Generator Interconnection Facilities unless the Generator Interconnection Facility is not deemed critical to the BES. “Transmission Owner Standard FAC-003, should

¹ Report at p. 5.

² Order Denying Appeal of Electric Reliability Organization Compliance Registry Determination, New Harquahala Generating Company, LLC, Docket No. RC08-4-000, 123 FERC ¶ 61,173 (May 16, 2008).

³ Report at p. 3.

apply to Generation Owners when their Generation Interconnection Facility operates at 200kv or above and is deemed to be critical to the BES.”⁴

The Report goes on to cite several examples to guide Generation Owners in making this “criticality” determination. The PSEG Companies seek clarification on the specific criteria that will be applied to determine whether a Generation Interconnection Facility is deemed critical and clarification as to which Generation Interconnection Facilities will be subject to the criticality test for Standard FAC-003-001.

The Report outlines three proposed methods for application of FAC-003-1 to Generator Interconnection Facilities. The first proposal is to apply FAC-003-1 to all Generator Interconnection Facilities. The second proposal would apply FAC-003-1 to all Generator Interconnection Facilities operating above 200 kV that extend beyond two tower spans from the generating plant property (“two-span” test). The third proposal would apply FAC-003-1 to Generator with Generator Interconnection Facilities operating at 200 kV and above deemed critical to the BES through rigorous impact test that would use engineering analysis based on system performance expectations.

The PSEG Companies support the adoption of proposal 2, the “two span” test, as it focuses on the fact that if a Generator Operator or Owner owns Interconnection Facilities that are de minimis in nature, the Transmission Owner standards such as FAC-003 should not be applied. The PSEG Companies seek clarification on the point of demarcation that will determine the starting point for determining whether a Generation Interconnection Facility extends beyond two

⁴ Report at p. 17.

tower spans from the generating plant property. In addition, the PSEG Companies seek clarification on whether the test is that the Generator Interconnection Facilities must extend beyond two tower spans from the generating plant property and that distance must be at least a 1/2 mile or whether I Standard FAC-003-1 will still apply if the span of Generator Interconnection Facilities is two towers but less than a 1/2 mile. The Report seems to indicate that that the test an “and” test, however the PSEG Companies believe it should be “either/or” test.

In conclusion, the PSEG Companies wholly support the Group’s recommendation that any further registration of generators as TO/TOPs, regardless of their size, should end and seek additional clarification of how the BES “criticality” determination will be made and how the two-span test will be applied.

Public Service Electric and Gas
Company
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Report from the Ad Hoc Group for Generator Requirements at the Transmission Interface – WECC Comments

General

As referenced in the “Historical Perspective” of the report, WECC recognized early on that reliability gaps could exist if high voltage transmission lines and associated facilities used to connect generators to the grid were not registered and subject to mandatory compliance. WECC’s efforts in this regard are most notable in the New Harquahala (“Harquahala”) case in which a large generating facility located in the WECC region was registered for the TO and TOP functions by virtue of the high voltage transmission facilities used to connect the plant to the grid. As discussed in the GO TO report, the “Harquahala” TO/TOP registration was upheld by both NERC and FERC. Subsequent to “Harquahala”, WECC has continued to be proactive in registering generators with transmission facilities >100kV as TOs and TOPs in order to ensure no gaps in mandatory reliability standards coverage. Nonetheless, WECC recognizes that not all of the standards and requirements, as currently written, are sufficiently tailored for these types of transmission facilities; WECC believes a comprehensive solution for this problem lies in revising the standards themselves.

In this regard, WECC supports the efforts of the Ad Hoc Group in addressing the registration and compliance requirements for “Generator Interconnection Facilities” in the reliability standards to ensure no gaps in coverage.

Recommendations Section

Recommendations 1 and 2. WECC generally supports recommendations 1 and 2 in so far as they relate to modifying the existing NERC standards by adding the definitions, requirements, and other clarification necessary to address “Generator Interconnection Facilities.”

Recommendations 3 and 4. WECC supports recommendations 3 and 4 in so far as they do not change the existing requirements under FAC-003-1 but rather modify the standards to include “Generator Interconnection Facilities.” Therefore, WECC supports Proposal 1 offered under issue 10 of the draft report. While WECC would consider supporting the clarification offered in Proposal 2, WECC does not support Proposal 3 as this proposal appears to represent a substantial change to standard FAC-003-1. In addition, WECC does not believe that this Ad Hoc Group is the proper forum for attempting to define “critical” or “material impact”

Recommendation 5. WECC is not certain that modifications to the NERC ROP and Registry Criteria are necessary if requirements for “Generator Interconnection Facilities” are addressed in the standards.

Recommendation 6. WECC believes it is reasonable to refrain from further registering GOs/GOPs as TOs/TOPs pending modification of the standards. However, WECC is

concerned that gaps in compliance coverage would continue to exist while the standards are being modified. WECC therefore believes such modification must be completely quickly in order to minimize any risks to reliability.

Recommendation 7. WECC is concerned by the recommendation to address de-registering those Generator Owners and Generator Operators that have previously been registered as a Transmission Owner and Transmission Operator by virtue of their “Generator Interconnection Facilities”. WECC has expended considerable time and resources to register several such GOs/TOs, and has undertaken significant compliance monitoring and enforcement activities with respect to these entities. De-registering these entities would likely raise important questions regarding the continuing validity of these monitoring and enforcement actions. Therefore, if NERC and FERC decide to de-register GOs/GOPs as TOs/TOPs, it should be done in an orderly and well-thought-out process that includes consideration of the proper disposition of past findings of non-compliance and the resulting enforcement actions.

Other Comments

With regard to items 7 and 8 in the Conclusions section of the Executive Summary, WECC urges the Ad Hoc Group to carefully review and use as guidance the list of applicable TOP requirements submitted by NERC to FERC in the Harquahala case, as well as any other relevant precedent, in order to fully address the coverage in requirements required for “Generator Interconnection Facilities”.

Iberdrola Renewables genuinely appreciates the efforts of the workgroup assigned to develop a draft report to address the generator requirements at the transmission interface. Iberdrola Renewables generally supports the draft report and agrees that a Generator Owner or Generator Operator that own and or operate a Generator Interconnection Facility that is a sole-use facility to interconnect the generator to the grid **should not be registered** as a Transmission Owner or Transmission Operator by virtue of owning or operating its Generator Interconnection Facility. Iberdrola Renewables agrees the appropriate way to address any potential reliability gaps created by the generator interconnection facilities at the transmission interface is to expand the existing Generator Operator requirements to ensure complete reliability coverage.

**Comments on RRI Energy, Inc. on August 14, 2009 Report from
Ad Hoc Group for Generator Requirements at the Transmission Interface**

September 15, 2009

RRI Energy, Inc. (“RRI”) would like to recognize the effort of the Ad Hoc Group (“GOTO Team”) in preparing the Report for Generator Requirements at the Transmission Interface (“Report”) and for tackling this issue. It is evident that the team took a professional and objective look at the issue.

RRI generally supports the seven recommendations listed on page 5 of the Report, and offers the following comments on the Report:

- **Page 3, Item 5 of the Executive Summary regarding generators connected to multiple transmission facilities**

GOTO TEAM COMMENT:

If a generator is connected to multiple transmission facilities or configured such that an outage of the Generator Interconnection Facility results in the outage of an integrated transmission line (i.e. three-terminal configurations), then those transmission facilities are integrated transmission facilities and should be subjected to the applicable Transmission Owner and Transmission Operator Standard Requirements.

RRI COMMENT:

Multiple interconnection facilities should only be registered as TO/TOP facilities if they are over 200kV and deemed critical to the reliability of the BES by the applicable TOs.

- **Page 12, Item 2 regarding a specialized training program to be developed on the expectations of operating the Generator Interconnection Facility to ensure grid reliability**

GOTO TEAM COMMENT:

A specialized training program should be developed to train Generator Operators on the expectations of operating the Generator Interconnection Facility to ensure grid reliability is preserved.

RRI COMMENT:

Generator Operators are not system operators (like Transmission Operators, Balancing Authorities and the like). Treating Generator Operators as if they were system operators and subjecting them to “generalized” training, such as NERC certification training for system operators would be misplaced and inappropriate. The GOTO Team’s comment rightly focuses on “specialized” training; that is, specialized to a particular interconnection facility of a Transmission Owner/Operator and Generator Owner/Operator. However, the GOTO Team’s comment requires clarification as to (1) who decides that specialized training is required, (2) who develops it and (3) whose expectations must be met. Without clarification, the meaning of “specialized training program” is undefined and it is not clear if such training would cover all interconnections with the Transmission Owner or only those interconnections that require “specialized training.” RRI recommends the following minor re-write for clarity: “A specialized training program, if required by an interconnecting Transmission Owner, should be developed by the Transmission Owner to train the Generator Operator on the Transmission Owner’s

expectations of operating the Generator Interconnection Facility to ensure grid reliability is preserved.”

- **Page 16, Item 8 regarding proposed new definition for Point of Interconnection**
GOTO TEAM COMMENT:

Point of Interconnection (NEW)

Location at which the Generator Interconnection Facility physically connects to the Transmission Owner’s transmission facilities. When a common owner owns the Generation Interconnection Facility and the Transmission Owner transmission facilities, the Point of Interconnection definition refers to the point at which operating responsibility for the facility changes between the Transmission Operator and the Generator Operator.

RRI COMMENT:

While RRI does not have a problem with the definition of "Point of Interconnection" proposed here, RRI proposes that NERC consider not using the term “Point of Interconnection” but instead consider using a different in order to avoid confusion. Using the term “Point of Interconnection” may cause some confusion because it does not match FERC's definition of “Point of Interconnection” and, therefore, there may be uncertainty in some cases as to what constitutes the Point of Interconnection for FERC interconnection purposes versus what constitutes the Point of Interconnection for NERC reliability standard purposes. The Point of Interconnection as defined by FERC is the point at which the interconnection facilities connect to the transmission system. However, for NERC purposes, given the variety of interconnection configurations and ownership structures and given the proposed definition in the Report, the Point of Interconnection will not always be the point at which the interconnection facilities connect to the transmission facilities. The way it is proposed to be defined here, it could in some instances be the point at which the Generator Interconnection Facilities connect to the transmission owner's interconnection facilities. As a result, the differences in definitions could potentially cause confusion in the industry. Therefore, RRI proposes that NERC consider using a term other than “Point of Interconnection.” Given that the proposed definition appears to be focusing on where the responsibility for operations changes, perhaps “Point of Change of Operating Responsibility” might be a possibility.

- **Page 17, Item 10 regarding material impact test for Generator Interconnection Facilities**

RRI COMMENT:

Of the three proposals set forth in the Report, RRI supports Proposal 3 as clarified herein. In the impact test or study that is conducted to determine whether the interconnection facility is critical to the BES, i.e., the single line-to-ground fault on the interconnection facility with delayed clearing or stuck breaker, the stuck breaker in this analysis would be a generator owned breaker, not a TO breaker. The additional criteria of no loss of firm load or curtailment of third party firm transfers should not be applied to a TO breaker failure scenario as this goes beyond the TPL standard requirements. The determination of whether a generator interconnection facility is critical to the BES should be based on the performance of the generator’s equipment and facilities, not those of the TO.

- **Page 72, EOP-003-1 R7.** The Transmission Operator, Generator Operator, and Balancing Authority shall coordinate automatic load shedding throughout their areas with

under-frequency isolation of generating units, tripping of shunt capacitors, and other automatic actions that will occur under abnormal frequency, voltage, or power flow conditions.

GOTO TEAM COMMENT:

Generic issue: Need to add Generator Operator applicability to ensure the units' frequency trip set points are appropriately included in the needed coordination.

RRI COMMENT:

This is being covered by the PRC-024 standard that is in drafting and, therefore, there is no need to cover this issue here. RRI also questions why EOP-001-1 R7 is not applicable to DPs since some DPs have responsibility for installing and maintaining the equipment in distribution level substations.

- **Page 143, TOP-001-1 R7.** Each Transmission Operator and Generator Operator shall not remove Bulk Electric System facilities, including Generator Interconnection Facilities, from service if removing those facilities would burden neighboring systems unless:.....

GOTO TEAM COMMENT:

Need to add new requirements to address interconnection facilities:

Rx. The Generator Operator shall coordinate the operation of its Generator Interconnection Facilities with the Transmission Operator to whom it interconnects in order to preserve Interconnection reliability with respect to the following:

- Switching elements
- Outage planning
- Real-time or anticipated emergency conditions
- Other conditions mutually agreed upon by the Generator Operator and Transmission Operator

Ry. The Transmission Operator shall have decision-making authority over the Point of Interconnection at all times in order to preserve Interconnection reliability

Rz. The Generator Operator shall take the action it deems appropriate to remove from service the Generator Interconnection Facilities when safety is jeopardized or equipment damage is imminent.

- The Generator Operator shall notify the Transmission Operator as soon as practical of the actions taken and the reasons therein.

RRI COMMENT:

In Ry, the TOP shall have decision making authority over what aspect of the point of interconnection? The requirement should specifically state what the TOP has authority over. Is it the opening of the point of interconnection?

- **Page 154, TOP-004-2 R1.** Each Transmission Operator shall operate within the interconnection Reliability Operating Limits (IROLs) and System Operating Limits (SOLs).

GOTO TEAM COMMENT:

To close gap for GOP operation of its Generator Interconnection Facilities, a new requirement is needed:

Rx. The Generator Operator shall operate its Generator Interconnection Facilities within applicable facility Ratings.

RRI COMMENT:

RRI requests that the GOTO Team explain the reliability gap is being addressed here. What is meant by “applicable facility ratings”? How can the GOP operate the interconnection facilities outside of the facility rating? The generator is designed for a certain level of real and reactive power and specific operating characteristics. All of the auxiliary equipment and interconnection facilities are designed around these limits. The unit is bound by the laws of physics. If the GOP tries to push the generator beyond its limits, the unit is designed to trip. For example, a 100 MW unit cannot be made to generate 200 MW just by adding more fuel. RRI understands that this is important for TOP operating static components to have rating methodologies because it is possible to create an overload.

- **Page 159, TOP-006-1 R6.** Each Balancing Authority, **Generator Operator**, and Transmission Operator shall use sufficient metering of suitable range, accuracy and sampling rate (if applicable) to ensure accurate and timely monitoring of operating conditions under both normal and emergency situations.

GOTO TEAM COMMENT:

To close general reliability concern, add GOP as applicable entities to R5 and R6.

RRI COMMENT:

What is the specific reliability gap and what is the improvement in ALR to be gained by obligating GOPs to abide by this requirement? RRI does not understand how obligating GOPs to abide by this requirement will address any reliability gap. Given the ambiguous and vague language set forth in the requirement, it is difficult, if not impossible, to discern what the requirement obligates a GOP, BA or TOP to have or do with respect to metering. Indeed, given the imprecise and unclear language included in the requirement (including “sufficient” metering, “suitable” range, “timely” monitoring), the requirement could be subject to wide and varying interpretations by BAs, TOPs, and GOs that may or may not address whatever reliability gap is at issue here. RRI therefore suggests that the requirement be reviewed and redrafted as necessary so that obligations and responsibilities under the requirement are clear, rather than simply requiring GOPs to abide by the requirement in its current form.

Comments to NERC GO-TO Draft Report of August 14, 2009
By Powersmiths International, Inc on behalf of its GO/GOP clients
September 14, 2009

Powersmiths International, Inc, on behalf of its GO/GOP clients, provides the following comments for consideration by the GO-TO draft Report team.

Comments as to Generator Interconnection Facility configuration

Conclusion 5 states-

If a generator is connected to multiple transmission facilities or configured such that an outage of the Generator Interconnection Facility results in the outage of an integrated transmission line (i.e. three-terminal configurations), then those transmission facilities are integrated transmission facilities and should be subjected to the applicable Transmission Owner and Transmission Operator Standard Requirements.

Our initial comment goes to the first part of this conclusion- *If a generator is connected to multiple transmission facilities or configured such that an outage of the Generator Interconnection Facility results in the outage...*

Our comment is that the highlighted 'or' should be replaced with 'and'. It would seem that transmission facilities should not be subjected to the TO/TOP requirements based solely and simply upon the fact that they are connected to multiple transmission facilities but rather on the basis as to whether such a connection exists **and** has an impact upon the reliability and security of integrated facilities.

Issue 2 seems to provide some additional clarity related to conclusion #2.

Issue-2 Affect of interconnection configuration on standard requirements and Applicability

The team discussed the varying system configurations that could exist at the generating unit end of the interconnection facility and on the transmission grid side of the facility. The team quickly concluded that the core issue centered on the applicability of requirements for sole-use interconnection facilities, that is, those facilities whose singular purpose is to connect the generating facility unit to the point of interconnection where the transition to the Transmission Owner's transmission facilities occurs. For other configurations in which the interconnection facility is used by other parties to tie to other substations or to customer loads or where a generator is connected to multiple transmission facilities of other parties, these facilities are considered integrated for the purposes of standard applicability and the full spectrum of Transmission Owner and Transmission Operator requirements would apply. Another similar scenario exists whereby a Generator Interconnection Facility connects to the transmission grid as part of a T-tap or three terminal configuration

where opening the line results in an outage of an integrated transmission line.

Our comment goes to the following language from that issue-- For other configurations in which the interconnection facility is used by other parties to tie to other substations or to customer loads or where a generator is connected to multiple transmission facilities of other parties, these facilities are considered integrated for the purposes of standard applicability and the full spectrum of Transmission Owner and Transmission Operator requirements would apply.

Some GO's are connected to multiple transmission substations resulting in substations that would not otherwise be connected to be tied together. Power that is not solely caused by the generator output itself flows between the two transmission substations on the generator interconnection facilities but it would be a stretch to say that the two owners of the transmission substations are "using" the interconnection facilities to tie the two substations together. The flow between the two substations is incidental and not critical or important to the two systems.

The language describing the following scenario is not clear. We are not sure whether our configurations apply or not. An example would be helpful.

Another similar scenario exists whereby a Generator Interconnection Facility connects to the transmission grid as part of a T-tap or three terminal configuration where opening the line results in an outage of an integrated transmission line.

Conclusion 6 states:

If a Generator Interconnection Facility is not solely-used to bring the unit output of the generating facility to the grid, then the Generator Interconnection Facility should be subjected to the applicable Transmission Owner and Transmission Operator Standard Requirements.

It is difficult in an AC system to know the *sole use* of transmission facilities as the larger integrated system will 'use' the new facilities in inverse proportion to their impedance. The 'use' of the facilities can/will change with load growth and the addition of other facilities. We do not believe that this statement provides the needed clarity.

We respectfully request that the driver for the application of the TO/TOP standards be the impact of an interconnection configuration upon reliability rather than the mere existence of the physical interconnection itself.

Also please consider that there may be different owners of units within a single generating plant and that multiple plants sometimes share common interconnect facilities that are used of the sole purpose of bringing combined plants output to the grid. The determination as to whether generation interconnection facilities should be subjected to the applicable Transmission Owner and Transmission Operator Standard Requirements should not be based upon generating unit or plant ownership.

Comments as to existing Standard modifications.

Conclusions 4, 7 and 8 speak to the modifications required to the existing Standards.

4. Changes to NERC Reliability Standards are needed to ensure complete reliability coverage of the Generator Interconnection Facility.

a. 35 [will update number prior to finalization] NERC Reliability Standards contain language regarding generators or generating facilities for which greater clarity regarding its Generator Interconnection Facilities would ensure no reliability gap exists

b. 9 [will update number prior to finalization] NERC Reliability Standards should have their applicability expanded to include Generator Operators to address general reliability gaps not attributable to their Generator Interconnection Facilities.

c. 7 [will update prior to finalization] new Reliability Standard Requirements should be added to ensure the responsibilities for owning and operating the Generator Interconnection Facility are clear, and to address certain requirements that should apply to all generators regardless of interconnection configuration.

7. After review of the existing Transmission Owner requirements that are not currently applicable to Generator Owners, only FAC-003-1 should have its applicability expanded to include Generator Owners as a result of its Generator Interconnection Facilities, but only under certain conditions.

8. After review of the existing Transmission Operator requirements that are not currently applicable to Generator Operators, no existing Transmission Operator requirements should apply to Generator Operators as a result of its Generator Interconnection Facility.

Recommendation #2-Submit urgent action SARs to modify existing Standard Requirements to add specificity for Generator Interconnection Facility where appropriate, to add Generator Operator applicability where needed, to add Requirements to capture responsibilities for owning and operating Generator Interconnection Facilities, and to add Requirements where necessary that should be applicable to Generator Operators regardless of the interconnection configuration.

To those of us not intimately familiar with the work of the team, it appears that Conclusion 4 and Recommendation #2 are inconsistent with Conclusions 7 and 8.

Submitted by Bill Smith, Powersmiths International, Inc.; 770 335 1872; bill@opsxpert.com

Suggested changes to August 14, 2009 Draft Report from the GOTO Team

The following changes are suggested in the GOTO team report on p. 16. Redline changes in the definitions are provided below:

Generator Interconnection Facility (NEW)

Sole-use facility for the purpose of connecting the generating unit(s) to the Point of Interconnection or transmission grid. As a sole-use facility, the Generation Interconnection Facility only transmits power associated with the interconnecting generator, whether it is power delivered to the grid by the generator or power taken from the grid by the generator for station service.

Reason for suggested change: Additional clarification is provided for the term “sole-use.” The Generation Interconnection Facility is for the sole benefit of the Generator Owner – for the owner to transmit its output to the grid or to take power from the grid for station service.

Point of Interconnection (NEW)

Location at which ~~the Generator Interconnection Facility physically connects to the Transmission Owner’s transmission facilities. When a common owner owns the Generation Interconnection Facility and the Transmission Owner transmission facilities, the Point of Interconnection definition refers to the point at which operating responsibility for the Generator Interconnection Facility changes between the Transmission Operator and the Generator Operator.~~

Reason for suggested change: The proposed definition assumes that when there is separate ownership of the Generator Interconnection Facility, operating responsibility rests with the owner of the facilities. As re-drafted, the issue of who owns the Generator Interconnection Facilities is removed. Whether a common owner exists or not, the Point of Interconnection is always defined as the point where the operating responsibility changes between the GO and TO. This definition works for a merchant generator as well as a vertically-integrated generator.