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Question 10 Comments (40 Responses)

Individual
Chris Higgins/Stephen Enyeart/Chuck Mathews/Charles Sheppard
Bonneville Power Administration
BPA thanks you for the opportunity to comment on Project 2010-07, Generator Requirements at the Transmission Interface. BPA stands in support of the proposed revisions and has no comments or concerns at this time.
Individual
Thad Ness
American Electric Power
Yes

Yes
Group
Electric Power Supply Association
Jack Cashin
Yes
All TO requirements for FAC-001-1 would apply if and when GO executes an Agreement to evaluate the reliability impact of interconnecting a third party Facility to its existing generation interconnection Facility. The execution of the agreement is necessary to comply with FAC-002-1 and start the compliance clock with the applicable regulatory authority. Thus as the Project 2010-07 Standard Drafting Team (SDT) in its technical justification has stated, "If, and only if, the existing owner of a generator interconnection Facility has an executed Agreement to evaluate the reliability impact of interconnecting a third party Facility to its existing generation Facility" then FAC-001-1 should apply. EPSA concurs with SDT's conclusion. The SDT has examined the issue regarding if future requests for transmission service on the interconnection Facility and in doing so acknowledged that when that Facility adopted open access and was providing transmission service it would necessitate re-evaluation of the need for the Facility to be maintained in accordance with FAC-001-1, Requirements 2 and 4. This service would indeed prompt the necessary agreement the SDT contemplates in its technical justification of FAC-001-1. EPSA believes this serves as the necessary trigger for evaluation of Requirements 2 and 4 under FAC-001-1 for GOs.
Yes
Group
Southwest Power Pool Standards Development Team
Jonathan Hayes
No
Based on the applicability section of FAC-001 we feel that the strike through should have been kept. It limited the requirement to just those generator owners who had agreements in place, which we feel is appropriate.
Yes
No
There is a possibility of some conflict with the Bulk Electric System Definition. This should be consistent with the Transmission Owner requirements if the lead is determined part of the BES.

No
The effective dates should be consistent with the original standard. If there is a reason for the extension we would like to know why.
Yes
Yes
Yes
No
We agree that the standards being addressed are correct. See above comments. There are some issues with the determination of which facilities are deemed BES since ownership of what may be a BES facility may not always be by a Transmission Owner. All relevant standards should apply to BES facilities regardless of ownership.
Individual
John Bee on behalf of Exelon
Exelon
Yes
Yes
No
FAC-003 - Exelon supports the one mile length qualifier, but feels that additional clarification is needed to determine the points of demarcation. There are too many differing physical configurations to use a "fence line" as a determination of applicability. Suggest that the tie line length be defined as "from the Generator Step up Transformer GSU to the point of interconnection between the GO and TO owned equipment." Also suggest that the standard define what constitutes a generation station switchyard.
Yes
PRC-004 - suggest that the Standard state that responsibility for the analysis of misoperations of protective equipment shall be the responsibility of the owner of the protective equipment.
Individual
Dennis Sismaet
Seattle City Light
Yes
Key points are that (1) an executed agreement is required before evaluations of impacts are necessary and (2) this only applies when a third party is connecting to the generating interconnection line.

Yes
The proposed changes for FAC-001-1 state a 45 day period to complete the evaluation. Not sure what the question is referring to regarding " 1 year "?
Yes
Key points are the greater than one mile with clear statement of "...beyond the fenced area of the generating switchyard."
Yes
The explanation deals with the fact that there are simultaneous revisions of FAC-003 underway by two different teams.
Yes
Individual
Michelle D'Antuono
Ingleside Cogeneration LP (Occidental Chemical)
No
Unfortunately, the vital point of this requirement revolves around whether or not a Generator Owner is compelled externally to allow access to their interconnection facilities. If the GO is driving the connection for financial or other business reasons, there is no reason they should not be responsible for developing AND maintaining a facility connection requirements document. Otherwise, when the local transmission system requirements change for any reason, there will be no entity responsible to ensure that the third party will conform as well. Conversely, if the GO should be compelled to allow access to a third party, it is the responsibility of the "compeller" to handle all the related reliability studies and documents. This may include the development of a CFR which separates reliability tasks between the GO and other entities – especially if a TSP registration is required. This ensures that the Regional Entity, PUC, RTO, or other regulator must budget dollars and resources directly related to their action – not cause them to be directed to a GO.
No
Based upon similar issues addressed in Compliance Application Notices (CANs), the drafting team needs to specify how the requirements apply to an in-place "executed Agreement to evaluate the reliability impact of interconnecting a third party Facility to the Generator Owner's existing Facility that is used to interconnect to the Transmission System." In the view of Ingleside Cogeneration LP, if the Agreement takes effect even one day before FAC-001-1 does, requirements R2 and R3 do not apply. Without this clarification, it is possible that NERC's Compliance team will apply the requirements retroactively – with minimum industry input.
No
Ingleside Cogeneration LP is very concerned that the attempt to develop "bright-line" criteria to assign applicability to either version of FAC-003 is misplaced. As seen with NERC's recent proposed directive related to Generator-Transmission interconnections, those thresholds can be arbitrarily reduced based upon regulators aversion to risk – not scientific evidence. (As it stands today, NERC has proposed any interconnection facility operating at 100 kV or higher and greater than 3 spans in length be applicable – which is even stricter than the TO thresholds in FAC-003.) This would suggest that a reliability assessment consistent with the TPL standards must be the determining factor. If the Planning Coordinator or Transmission Planner can show that the Generator-Transmission interconnection could contribute to a violation of an SOL or IROL, then a vegetation management program may be in order. Furthermore, there needs to be some level of common sense applied if a

GO-TO interconnection is located in an area where vegetation clearance is never an issue. A one-size-fits-all requirement based upon vegetation growth in the sub-tropics, should not automatically apply in the desert. In our view, every dollar spent to control vegetation in an arid climate is one less dollar available to purchase advanced telemetry, AGC systems, and other items which have a far greater impact on reliability.

No

Based upon similar issues addressed in Compliance Application Notices (CANs), the drafting team needs to specify when the first vegetation management inspection quarterly report, and any other requirement with an assigned interval in FAC-003-3 or FAC-003-X. Even if the decision is to adopt the same criteria proposed in CAN-0012, the industry is better served with a clear distinction made up front.

Yes

Ingleside Cogeneration agrees that the SDT's approach is thorough. We are far more concerned about FAC-003's applicability criteria and implementation time frame at this point – as stated in our responses to questions 3 and 4.

Yes

Ingleside Cogeneration LP believes the SDT has spent a significant amount of time and effort to demonstrate that only FAC-001, FAC-003, and PRC-004 need to be modified to address any reliability gaps that may exist related to the GO-TO interconnection. We agree that the other standards/requirements identified by the Ad Hoc Group are covered elsewhere.

Yes

Although the SDT is nearing conclusion on the closing of reliability gaps, the unnecessary registration of GOs and GOPs as TOs and TOPs is far from resolved in our view. Ingleside Cogeneration's concern is based upon NERC's recent proposal to dictate an interim GO-TO interconnection solution which completely bypasses the Standards Development Process. Frankly, it seriously brings to question the nature of the consensus-driven process – which appears to be moving in a dictatorial direction.

No

See comments to questions 1 through 4.

Ingleside Cogeneration LP believes that the set of standards proposed by the SDT is technologically accurate and defensible. The open issue is if the ERO and FERC expect more standards to be included – whether based upon sound reliability principals or not.

Group

Northeast Power Coordinating Council

Northeast Power Coordinating Council

Guy Zito

Guy Zito

No

The intent of the draft language in FAC-001-1 is to provide guidance for addressing the alleged reliability gap that exists between GO/GOPs that own/ operate transmission facilities but are not registered as TO/TOPs. The impact of the revised language will depend on the characterization of the generator lead after the "third party " connects to the existing generator lead. IF the generator lead is owned by the TO utility after the third party connection : The proposed DRAFT FAC-001 language suggests that within 45 days of a 3rd party having an executed Agreement to evaluate the reliability impact of interconnecting, the existing generator needs to document and publish facility connection requirements. The proposed language suggests that a third party can commandeer existing generators leads and interconnect. A reclassification would be required because "third party" power would flow through the downstream portions of the existing leads. This introduces significant challenges for defining ownership / transfer of installed assets as well as real property, easements, operational jurisdiction, O&M cost responsibility, etc. The FERC approved pro-forma Attachment X Interconnection Agreement clearly states that the project Developer must meet all Applicable Reliability Standards which means that all requirements and guidelines of the Applicable Reliability Councils, and the Transmission District to which the Developer's Large Generating Facility is directly interconnected. As an example, to accommodate this NERC proposal, the FERC approved NYISO pro-

forma tariff would need to be revised to allow this "third party" use. The pro-forma interconnection tariff also states that the Developer must provide updated project information prior to the Facilities Study. The Facilities Study might not be made until several years after the Interconnection Request /Feasibility Study is made ("executed Agreement to evaluate the reliability impact of interconnecting" in this proposed draft is akin to the Interconnection Request/Feasibility Study). Placing the requirement to have the existing Generator Owner publish reliability requirements for a potential "third party user", without the generator having any knowledge of the potential reliability outcomes or asset transfer / ownership issues is not a reasonable expectation. The interconnection of a third party to an existing generator lead would force existing generators to revise their Interconnection Agreements with FERC. The "third party", would at a minimum, need to comply with the existing Generators reliability obligations as specified in the Interconnection Agreement. IF the third party connects to the GO owned generator lead, the GO will be considered a TO: A TO would not be involved, other than review of the SRIS and Facilities reports. The difficult thing for an existing GO would be to prepare, within 45 days of having an executed Agreement to evaluate the reliability impact of interconnecting a third party Facility to the Generator Owner's existing Facility, a document listing the requirements. To allow for the above possibilities, the language for applicability of FAC-001 to GO's or GOP's, should be : "Each applicable Generator Owner shall, at least 60 days prior to execution of a Facilities / Class Year Study Agreement to evaluate the reliability impact of interconnecting a third party Facility to the Generator Owner's existing Facility that is used to interconnect to the Transmission System, document and publish its Facility connection requirements to ensure compliance with NERC Reliability Standards and applicable Regional Entity, sub regional, Power Pool, and individual Transmission Owner planning criteria and Facility connection requirements."

Yes

No

Suggest in FAC-003-X; 4.3.1. that Regional Entity be changed to RE as listed in 4.2.1 for consistency. Also Regional Entity is used throughout the rest of the document, suggest using RE for consistency. In FAC-003-3; 4.3.1. add station to the following: " Overhead transmission lines that extend greater than one mile or 1.609 kilometers beyond the fenced area of the generation station switchyard and are" to show consistency as it is written in FAC-003-X 4.3.1. The technical justification characterized the exclusion (i.e., one mile or 1.609 kilometers beyond the fenced area of the generating station switchyard) as "approximate line of sight [sic] from a fixed point" and noted that this line of sight may be limited by local terrain. Where line of sight of the radial corridor is limited on a clear day due to terrain, the one mile exemption must be limited in distance to no more than the line of sight on a clear day beyond the fenced area.

Yes

Yes

Yes

Yes

Yes

No additional comments.

Individual

Michael Falvo

Independent Electricity System Operator

Yes

Yes
Yes
Yes
Group
Southwest Power Pool Regional Entity
Emily Pennel
Yes
No
No action is required unless a GO has an executed third-party agreement. If a GO has an agreement, the standard already includes a 45-day timeframe for the GO to document and publish its facility connection requirements.
Yes
Yes
Yes
No
The Technical Justification document did not review the standards FERC identified in paragraphs 71 and 87 of 135 FERC ¶ 61,241 ORDER DENYING APPEALS OF ELECTRIC RELIABILITY ORGANIZATION REGISTRATION DETERMINATIONS. The SDT needs to review these standards to determine if changes are needed; otherwise, FERC will require registration of GOs and GOPs as TOs and TOPs to address reliability gaps. If the SDT determines no changes are needed to these FERC-identified standards, they should provide justification.
The SDT should consider the standards that FERC identified in 135 FERC ¶ 61,241.
Individual
Greg Rowland
Duke Energy
Yes
Yes
Yes

Yes
Individual
Darryl Curtis
Oncor Electric Delivery Company LLC
Yes
Individual
Kirit Shah
Ameren
Yes
Yes
No
(a) There is no technical basis for the one mile length exemption. In fact, one could argue that a very short line, 300 feet in length, that experienced a fault from a tree at "the end of the circuit", i.e near the switchyard fence, would have much more of an impact on the BES because the fault would be limited by much less impedance. (b) It is unclear in this version if a GO that owned one line that was 1.2 miles in length, and fifty other lines that did not exceed 500' in length would have to comply for all fifty-one lines or not. It would appear that they would as they owned at least one more than a mile. This ambiguity should be removed.

No
The 2 year compliance time line is far too long. There is significant industry evidence that was developed in the drafting of Version 2 that supports a one year compliance time-line for new lines. This is evidenced in Version 2. Thus there is no basis for the 2 years.
(a) There is no technical basis for the one mile length exemption. In fact, one could argue that a very short line, 300 feet in length, that experienced a fault from a tree at "the end of the circuit", i.e near the switchyard fence, would have much more of an impact on the BES because the fault would be limited by much less impedance. (b) It is also unclear in this version if a GO that owned one line that was 1.2 miles in length would have to comply for the entire length of said line, or just 0.2 miles of said line. If the GO is responsible for 1.2 miles, then that argues that the first mile is important and consequently there is no basis for ignoring the first mile on other lines. If the GO is only responsible for 0.2 miles, what is the technical basis to ignore a mile? And would it be the first mile from the switchyard that is ignored, or is the middle mile, or the last mile where it connects to the TO? Or could the GO decide? Or could the GO pick sections of the line that amount to a mile that they can ignore? This seems like something that should be addressed for compliance. (c) The 2 year compliance time line is far too long. There is significant industry evidence that was developed in the drafting of Version 2 that supports a one year compliance time-line for new lines. This is evidenced in Version 2. Thus there is no basis for the 2 years
Yes
No
Please refer to our comments in responses to #3, #4, and #5 above.
Individual
John Seelke
PSEG
No
We revised this partial sentence to the following: "Each applicable Generator Owner shall, within 45 days of having an executed Agreement to evaluate the reliability impact of interconnecting a third party Facility to the Generator Owner's existing Transmission Facility that is used for connection to the interconnected Transmission systems (under FAC-002-1), ..." - The phrase "Generator Owner's existing Facility that is used to interconnect to the Transmission System" was changed to "Generator Owner's existing Transmission Facility that is used for connection to the interconnected Transmission systems." - "Transmission" was added before Facility to exclude connections elsewhere; "Transmission System" was changed to "Transmission systems" because while "Transmission" and "System" are defined in the NERC Glossary, "System" means "A combination of generation, transmission, and distribution components." "Transmission systems" do not have generation or distribution components, so a lower case "system" is warranted. - In addition, the suggested phrase "interconnected Transmission systems" (plural "systems") uses identical language from FAC-002-1, except that we capitalized "Transmission."
Yes
No
No
It's no longer applicable.
Yes
No
PRC-005-1 - Transmission and Generation Protection System Maintenance and Testing was recommended by the Ad Hoc Group for modification, but not addressed to the technical justification document. It should be.

No
It would be helpful if the SDT defined what it means by the term “radial generator interconnection Facilities.” Does it mean interconnection Facilities that under Normal Clearing for a fault do not interrupt flows on other BES Elements? This is also confusing because of the radial exclusion included in the BES definition work in Project 2010-17. That definition would allow part of a three-terminal circuit to be excluded from the BES, while the other parts are included in the BES.
No
Yes
We believe that the Ad Hoc Group’s suggestions regarding PRC-005-1 - Transmission and Generation Protection System Maintenance were correct and that this standard should have been modified by the SDT in a manner similar to the way the SDT modified PRC-004-2. This would require modifying R1 and R2 in PRC-005-1a (the current version) to include protection systems in the generator interconnection Facility. In addition, the SDT should evaluate modifying PER-002-0 – Operation Personnel Training. In doing so the SDT completes one of the open FERC directives in Order 693. Paragraph 1363 addresses GOP training: 1363. Further, the Commission agrees with MidAmerican, SDG&E and others that the experience and knowledge required by transmission operators about Bulk-Power System operations goes well beyond what is needed by generation operators; therefore, training for generator operators need not be as extensive as that required for transmission operators. Accordingly, the training requirements developed by the ERO should be tailored in their scope, content and duration so as to be appropriate to generation operations personnel and the objective of promoting system reliability. Thus, in addition to modifying the Reliability Standard to identify generator operators as applicable entities, we direct the ERO to develop specific Requirements addressing the scope, content and duration appropriate for generator operator personnel.
Group
MRO NSRF
Will SMith
Yes
Yes
No
The NSRF agrees with the drafting committees desire to eliminate arbitrary and capricious behavior of auditors and industry staff by precisely defining the point at which measurement starts for the length of transmission line. The concern the NSRF has with the proposed wording is that many generating station may not have a “generating station switchyard” as implied by the proposed wording. Often the generator leads (e.g. 20 kV) will exit the generator and connect to transformers located in transformer bays directly adjacent to the plant. From the transformers the now greater than 200 kV lines will be routed to the point of interconnect or a generating unit switchyard, possibly miles or yards away. By no one’s definitions would the transformer bays adjacent to the plant be considered a switchyard. The plant fence may be yards or hundreds of yards from the bays and on a multiple unit site, there may be a site fence or boundary, which could be comprise of fences, security patrols, or other barriers yards or miles from the transformer but enveloping the switchyard. The valid assumption made by the drafting team is that transmission lines within an area tightly controlled by the generator operator poses very little risk to the BES as a result of vegetation contact. This assumption is based on the valid observation that these areas are routinely occupied and observed by station personnel and as a result unexpected and unacceptable vegetation growth is highly unlikely because it is controlled by routine maintenance. It also correctly assumes that some distance past the controlled area is acceptable since this area would also be under near continuous observation. The problem comes in defining both a tightly controlled area and a line of site. We suggest the following: Controlled Area: A perimeter around a power plant, power plants, or switchyard which is prevents intrusion by the use of physical barriers, observation, or electronic monitoring and is routinely occupied such that unexpected and unacceptable vegetation growth would be observed and correct as a matter of routine maintenance. Line of Sight: NSRF recommends a two kilometer distance from the

controlled area perimeter. Our assessment is that an individual of average height would have a line of sight of approximately 4 Kilometers. Therefore, we recommended a distance of 2 kilometers from the Controlled Area of the plant to provide margin. The revised applicability statement would read as follows: "Generator Owner that owns an overhead transmission line(s) that extends greater than 2.0 kilometers beyond the Controlled Area of the generating station up to the point of interconnection with a Transmission Owner's Facility and is operated at 200 kV and above and any lower voltage lines designated by the Regional Entity as critical to the reliability of the electric system in the region. Furthermore we applaud the committee for using the metric system to identify the acceptable distance for this standard and urge it to remove all references to English units. We strongly suggest this drafting team and all future drafting team abandon the anachronistic English measurement system. This archaic system, based on the length of an average barley corn, should be abandon in all scientific and engineering endeavors.

Yes

There may be a typographical error on the effective date. As currently drafted the standard states: In those jurisdictions where regulatory approval is required, Requirement R1 applied to the Generator Owner becomes effective on the first calendar day of the first calendar quarter one year after the date of the order approving the standard from applicable regulatory authorities where such explicit approval for all requirements is required. In those jurisdictions where no regulatory approval is required, Requirement R3 becomes effective on the first day of the first calendar quarter one year following Board of Trustees adoption. Should it be worded as follows? In those jurisdictions where regulatory approval is required, Requirement R1 applied to the Generator Owner becomes effective on the first calendar day of the first calendar quarter one year after the date of the order approving the standard from applicable regulatory authorities where such explicit approval for all requirements is required. In those jurisdictions where no regulatory approval is required, Requirement R3 R1 becomes effective on the first day of the first calendar quarter one year following Board of Trustees adoption.

Yes

No

The NSRF has one concern with the current justification and definitions. At some point, if enough interconnections are made to generator outlet leads in accordance with FAC-001, the original generator operator will be a Transmission Operator and a Transmission Owner. This point in time needs to be explicitly defined by the drafting team.

Yes

Yes

The NSRF agrees if the drafting team incorporates as suggested improvements

Individual

Andrew Z. Pusztai

American Transmission Company

Yes

Yes

Yes

Yes

Yes

Yes

Yes
Yes
Individual
RoLynda Shumpert
South Carolina Electric and Gas
Yes
Yes
No
There should be no qualifying exemption to FAC-003 for Generator Owners.
Yes
Yes
Yes
No
The modifications are appropriate with the exception noted in question #3.
Group
American Wind Energy Association
Natalie McIntire
Yes
AWEA appreciates that this standard specifies that it has limited applicability. For instance, only those generators that have an executed agreement with a third party wishing to interconnect must document and publish Facility connection requirements. We believe the proposed 45-day time window is a minimum for GO/GOP owners of generator lead lines to provide this documentation following execution of such an agreement. Anything less than 45 days could result in a burdensome and hard to meet deadline for GO/GOP staff. However, AWEA believes that extending this time window for publishing Facility connection requirements to 90 days after an executed agreement would be beneficial. We believe this will allow the GO/GOP owners of generator leads more time to coordinate with their interconnecting Transmission Providers and will result in more reliable and coordinated connection requirements for the generator lead.
Yes
Yes, since there is no exigent reason why this standard needs to be put in place at once, we support the one-year compliance timeframe. We believe that it will allow generators a reasonable time to comply with the requirement.
Yes
Applying the vegetation management requirements to only generator lead lines that extend more than "one mile beyond the fenced area of the generating station switchyard" strikes a reasonable balance among the many stakeholder positions expressed on this topic. We think that as this criterion recognizes that there is little need for a vegetation management plan for shorter lines. It should explicitly state that this is true for all such facilities with lines of that length or smaller.

Yes
Yes, as with our comments to question 2, since there is no exigent reason why this standard needs to be put in place at once, we support the proposed compliance timeframe. We believe that it will allow generators a reasonable time to comply with the requirement.
Yes
Yes
The reasoning of the SDT is comprehensive and makes a strong case for why there is no need for additional standards to be applied to GO/GOP lead lines as they will not improve the reliability of the Bulk Electric System. In fact, as noted above, such additional standards may decrease reliability by diverting the GO/GOP's resources from the operation of the equipment that actually produces electricity – the generation equipment itself.
Yes
AWEA believes that the standards modifications proposed by the SDT should address any genuine reliability gap with regard to generator lead lines, rather than just perceived but unsupported threats. To that end, we support the approach that the SDT appears to be taking of modifying a limited number of applicable standards so that they apply to GO/GOP lead lines. In particular, we fully support the fact that the SDT recognizes that GO/GOPs should not automatically be required to register as TO/TOPs simply because of their ownership of generator lead lines. The SDT correctly recognizes that such registration should be done based on a case-by-case determination. As already noted, registering a GO/GOP as a TO/TOP may actually decrease reliability.
Yes
For the most part, AWEA agrees that the SDT proposal strikes a reasonable balance and provides the requisite level of clarity and certainty necessary for GO/GOPs to understand their responsibilities and compliance requirements.
AWEA appreciates the opportunity to submit these comments on the NERC Project 2010-07. AWEA supports the general direction indicated by both the Generator Requirements at the Transmission Interface Ad Hoc Group and the Project 2010-07 Standards Development Team. We agree with the sentiments from both groups that a GO or GOP that also owns or operates a generator lead line should not be required to register as a TO or TOP strictly because they own or operate a generator lead line. We also agree that requiring these GO/GOPs to comply with all the TO/TOP standards would have little effect on or benefits to reliability of the Bulk Electric System, and could even detract from it. AWEA supports the intent and goal of the SDT to ensure that all generator-owned Facilities are appropriately covered under NERC's Reliability Standards. We also agree with the SDT that while many GO/GOPs operate Elements and Facilities that might be considered by some entities to be Transmission, these are most often radial Facilities that are not part of the integrated grid, and as such should not be subject to the same standards applicable to TO/TOPs, who own and operate Transmission Elements and Facilities that are part of the integrated grid. Therefore, we support the SDT's approach of identifying a very limited number of TO/TOP standards, such as FAC-001 and FAC-003, which should also apply to GO/GOP owners of generator lead lines. We would be concerned, however, if additional requirements were added beyond FAC-001, FAC-003, and PRC-004. Consideration of any additional standards with respect to generator lead lines should be done on a standard-by-standard basis, reviewing the applicability of each standard as well as the impact on the reliability of the Bulk Electric System.
Group
SERC Planning Standards Subcommittee
Charles W. Long
Yes
Yes
No
We believe there should be no exemption for Generator Owners.

Yes
No
See our comments above for question # 3.
The comments expressed herein represent a consensus of the views of the above-named members of the SERC EC Planning Standards Subcommittee only and should not be construed as the position of SERC Reliability Corporation, its board, or its officers”
Group
Puget Sound Energy, Inc.
Tom Flynn
The changes to this standard are minor, and seem to be centered around including "generator Interconnection facilities" to R2. This added phrase and the statement in 1.4 Data Retention "Generator Owner that owns a generation Protection System" seems to assume that the generator owner and generator interconnection facilities owner is always the same. This is not always the case, and will make this standard language confusing to prepare evidence for. A suggestion would be to revise the language to allow for a separate generator owner and generator interconnection facilities owner.
Individual
Ravi Bantu
RES Americas Development
Yes
RES Americas and AWEA appreciate that this standard specifies that it has limited applicability. For instance, only those generators that have an executed agreement with a third party wishing to interconnect must document and publish Facility connection requirements. We believe the proposed 45-day time window is a minimum for GO/GOP owners of generator lead lines to provide this documentation following execution of such an agreement. Anything less than 45 days could result in a burdensome and hard to meet deadline for GO/GOP staff. However, we believes that extending this time window for publishing Facility connection requirements to 90 days after an executed agreement would be beneficial. We believe this will allow the GO/GOP owners of generator leads more time to coordinate with their interconnecting Transmission Providers and will result in more reliable and coordinated connection requirements for the generator lead.
Yes
Yes, since there is no exigent reason why this standard needs to be put in place at once, we support the one-year compliance timeframe. We believe that it will allow generators a reasonable time to comply with the requirement.

Yes
Applying the vegetation management requirements to only generator lead lines that extend more than “one mile beyond the fenced area of the generating station switchyard” strikes a reasonable balance among the many stakeholder positions expressed on this topic. We think that as this criterion recognizes that there is little need for a vegetation management plan for shorter lines, it should explicitly state that this is true for all such facilities with lines of that length or smaller.
Yes
Yes, as with our comments to question 2, since there is no exigent reason why this standard needs to be put in place at once, we support the proposed compliance timeframe. We believe that it will allow generators a reasonable time to comply with the requirement.
Yes
Yes
The reasoning of the SDT is comprehensive and makes a strong case for why there is no need for additional standards to be applied to GO/GOP lead lines as they will not improve the reliability of the Bulk Electric System. In fact, as noted above, such additional standards may decrease reliability by diverting the GO/GOP's resources from the operation of the equipment that actually produces electricity – the generation equipment itself.
Yes
We believe that the standards modifications proposed by the SDT should address any genuine reliability gap with regard to generator lead lines, rather than just perceived but unsupported threats. To that end, we support the approach that the SDT appears to be taking of modifying a limited number of applicable standards so that they apply to GO/GOP lead lines. In particular, we fully support the fact that the SDT recognizes that GO/GOPs should not automatically be required to register as TO/TOPs simply because of their ownership of generator lead lines. The SDT correctly recognizes that such registration should be done based on a case-by-case determination. As already noted, registering a GO/GOP as a TO/TOP may actually decrease reliability.
Yes
For the most, we agree that the SDT proposal strikes a reasonable balance and provides the requisite level of clarity and certainty necessary for GO/GOPs to understand their responsibilities and compliance requirements.
RES and AWEA appreciates the opportunity to submit these comments on the NERC Project 2010-07. We support the general direction indicated by both the Generator Requirements at the Transmission Interface Ad Hoc Group and the Project 2010-07 Standards Development Team. We agree with the sentiments from both groups that a GO or GOP that also owns or operates a generator lead line should not be required to register as a TO or TOP strictly because they own or operate a generator lead line. We also agree that requiring these GO/GOPs to comply with all the TO/TOP standards would have little effect on or benefits to reliability of the Bulk Electric System, and could even detract from it. RES and AWEA supports the intent and goal of the SDT to ensure that all generator-owned Facilities are appropriately covered under NERC's Reliability Standards. We also agree with the SDT that while many GO/GOPs operate Elements and Facilities that might be considered by some entities to be Transmission, these are most often radial Facilities that are not part of the integrated grid, and as such should not be subject to the same standards applicable to TO/TOPs, who own and operate Transmission Elements and Facilities that are part of the integrated grid. Therefore, we support the SDT's approach of identifying a very limited number of TO/TOP standards, such as FAC-001 and FAC-003, which should also apply to GO/GOP owners of generator lead lines. We would be concerned, however, if additional requirements were added beyond FAC-001, FAC-003, and PRC-004. Consideration of any additional standards with respect to generator lead lines should be done on a standard-by-standard basis, reviewing the applicability of each standard as well as the impact on the reliability of the Bulk Electric System.
Individual
Katy Wilson
Sempra Generation

rare. 3) If the redline changes are implemented, GOs are removed from R4, thereby removing the obligation for GOs to maintain their connection requirements. If GOs are included in FAC-001, they should be held accountable to the same level as TOs and should be required to maintain their connection requirements. Requiring a GO to maintain connection requirements would be especially beneficial to the GO themselves. In the majority of instances, any GO that is an Applicable Entity for FAC-001 would initially be inexperienced in performing interconnection studies and would benefit from regular and frequent review of their connection requirements as experience and expertise are gained. 4) The revision to FAC-001-1 R2 may be problematic, depending on what was intended. Under the revised requirement, the obligation to comply is dependent on the execution of an agreement to evaluate reliability impacts under FAC-002-1. However, FAC-002-1 does not clearly require the execution of an agreement by the Generator Owner. FAC-002-1 only requires the Generator Owner to "coordinate and cooperate on its assessments with its Transmission Planner and Planning Authority". Accordingly if a Generator Owner coordinates without executing an agreement to perform an assessment, compliance with FAC-001 R1 will not be required. 5) Manitoba Hydro would also like to point out that if the redline changes are implemented, it will greatly increase the complexity of coordination required under FAC-002-1 for Transmission Planners/Planning Authorities.

No

See question 1 comments.

No

Manitoba Hydro does not support the changes being proposed in this project. If a Generator Owner is required to register as a TO, all the Requirements applicable to a TO should apply. There is no need to change specific Reliability Standards to allow the Generator Owner to perform only selected TO functions.

No

See question 3 comments.

No

See question 3 comments.

No

See Question 7 comments.

No

The SDT's proposed modifications gives special treatment to the Generator Owner in that it allows the Generator Owner TO status for a couple of standards (FAC-001, FAC-003 and PRC-004), but exempts the Generator Owner from many of the standards applicable to a TO. The NERC Registry Criteria defines the various functional entities. If a Generator Owner wants to own transmission facilities and it falls under the definition of a Transmission Owner under the NERC Registry Criteria, then all the Requirements applicable to a TO should apply. There is no need to change specific Reliability Standards to allow the Generator Owner to perform only selected TO functions. Reliability gaps would be better closed if select GOs and GOPs simply registered as TOs and TOPs. At this time, this would not lead to a large number of extra registrations since, as stated in the technical justification document, 'interconnection requests for Generator Owner Facilities are still relatively rare.

No

See question 7 comments.

No additional comments.

Group

Florida Municipal Power Agency

Frank Gaffney

Yes

Yes

Yes

Yes
Yes
No
see comment to Question 7
FMPA believes that TOP-004-2 R6.2 ought to also be addressed in the standards as applicable to GOPs. The requirements reads: R6. Transmission Operators, individually and jointly with other Transmission Operators, shall develop, maintain, and implement formal policies and procedures to provide for transmission reliability. These policies and procedures shall address the execution and coordination of activities that impact inter- and intra-Regional reliability, including: R6.2. Switching transmission elements. Although planned outages are covered in other standards applicable to a GOP, switching to close / synchronize a generator back to the system is not specifically covered in the standards. Some have argued that TOP-002-2 R3 causes GOPs to coordinate its current day plans with the TOP; however, the name of the standard is "Transmission Operations Planning" and therefore implies the availability of the generator and related equipment and not necessary implies the policies and procedures for switching operations; which includes synchronization. FMPA cannot imagine a generator that would not have such switching / synchronization policies and procedures coordinated with its interconnecting TOP; as such would normally be required through a Large Generator Interconnection Agreement through a pro forma OATT; however, FMPA is not aware of any instance in the standards that covers this. As such, FMPA recommends including TOP-004-2 R6.2 as being applicable to a GOP.
see response to Question 7
Group
Dominion
Mike Garton
Yes
Yes
No
Dominion suggests in FAC-003-X; 4.3.1. Regional Entity be changed to RE as listed in 4.2.1 for consistency. Also Regional Entity is used throughout the rest of the document, suggest using RE for consistency overall. Dominion suggests in FAC-003-3; 4.3.1. adding station to the following "Overhead transmission lines that extend greater than one mile or 1.609 kilometers beyond the fenced area of the generation station switchyard and are" to show consistency as it is written in FAC-003-X 4.3.1. Further, Dominion is concerned that the technical justification characterized the exclusion (i.e., one mile or 1.609 kilometers beyond the fenced area of the generating station switchyard) as "approximate line of sign [sic] from a fixed point" and notes that this line of sight may be limited by local terrain. Where line of sight of the radial corridor is limited on a clear day due to terrain, the one mile exemption must be limited in distance to no more than the line of sight on a clear day beyond the fenced area.
Yes

Yes
No
Individual
Chris de Graffenried
Consolidated Edison Co. of NY, Inc.
No
The language for FAC-001 Requirement R2 should be: "This requirement shall apply to each applicable Generator Owner. Generator Owner filings must be made at least 60 days in advance of execution of the final interconnection study agreement in the Planning Coordinator's or Transmission Planner's study process. Each applicable Generation Owner must publish its Facility connection requirements to ensure compliance with NERC Reliability Standards and applicable Regional Entity, sub regional, Power Pool, and individual Transmission Owner planning criteria and Facility connection requirements. The evaluation of the reliability impact(s) of interconnecting a third party Facility to the Generator Owner's existing Facility utilized for interconnection to the Transmission System must be documented."
Individual
Ed Davis
Entergy Services
Yes
Yes
Yes
We suggest that the Vegetation Management Standards should be consistent for both the TO and GO facilities. We would also like to suggest an additional Recommendation for added clarity regarding Category 3 Outages (Off-ROW Fall-in Outages). We understand that the Category 3 Outages are not a violation of the Standard, but we feel that there should be some level of comment added within the Standard clearly stating that these Outages are "Reportable Only" during the Quarterly Outage reports to the RE's, and that there are no associated violations/sanctions for this Category Of Outage, and that an Off-ROW fall-in outage would not be considered an encroachment into the MVCD in any way. The Technical Reference Document does a good job of clearly stating this in the Introduction on Page 5 ("This standard is not intended to address outages such as those due to vegetation fall-ins or blow-ins from outside the Right-of-Way, vandalism, human activities or acts of nature.") and we feel

that this should also be stated clearly in the Standard.
Individual
Alice Ireland
Xcel Energy
Yes
Individual
Russell A. Noble
Cowlitz County PUD
Yes
Yes
Cowlitz PUD (District) registered as a Transmission Owner shortly before FAC-001-0 became effective and was forced to file a Mitigation Plan in order to facilitate compliance. The District successfully completed compliance implementation and documentation in eight months. The proposed one year compliance timeframe is sufficient.
Yes
No
N/A
In answer to the SDT request for feedback on FERC's Order concerning Cedar Creek and Milford, the District finds no technical reason to add any of the listed standard requirements, and struggles to understand why FERC would even consider this listing as applicable.

interconnection, then the requirement becomes applicable. Otherwise, the compliance and monitoring is subject to the SDT's speculation as indicated in this language included in the technical justification document: "However, the SDT cannot be certain this is the only example and it therefore proposes to add this new requirement to FAC-001-1. In doing so, the SDT acknowledges that the Generator Owner may not, at the time it agrees or is compelled to allow a third party to interconnect, have the necessary expertise to conduct the required interconnect studies to meet this standard. Assuming that a regulatory body would require a Generator Owner to evaluate such an interconnection request, the SDT expects the Generator Owner and the third party to execute some form of an Agreement."

Yes

In the description of the "second effective date" in FAC-003-X there is an erroneous reference to "Requirement R3," which should be corrected to "Requirement R1."

No

A compliance timeframe for the applicable GOs of two years is too long and the scenario used as a basis provides no timing specifics or details. Moreover, the 12 months for an existing transmission line operated at 200kV or higher which is newly acquired by an asset owner and which was not previously subject to this standard is arguably the same situation as an applicable GO but the applicable GO has an additional 12 months to come into compliance.

Yes

No

Our negative votes on FAC-003 reflect our concern that this project has not considered all of the applicable standards. Why did the SDT choose to only review the Ad Hoc Group's standards when there have been multiple registration appeals in which FERC and NERC have repeatedly cited specific additional TO/TOP standards that were determined to be applicable to GO/GOPs? This SDT project would serve a tremendous value to the ERO and in particular industry if it were to address the technical aspects of the following FERC ordered applicable standards: PRC-001-1 R2, R4; PRC-004-1 R1; TOP-004-2 R6; PER-003-1 R1; FAC-003-1 R1, R2; TOP-001-1a R1 and FAC-004-2 R2. The SDT team should analyze the FERC orders, the applicable standards indicated, and the circumstances and facts involved, and technically justify why no reliability gap exists if these standards are not applied to GO interface facilities. The SDT should include more "technical" information in its technical justification document. For example, in regards to TOP-004-2 R7, the SDT technical justification states that there is no reliability gap because, ". . . because an operator has a fiduciary obligation to protect a Facility for which it is operationally responsible." An entity having a fiduciary obligation is not a technical justification of why a reliability gap does not exist. Moreover, by that logic there would be no need for many standards because every registered entity has a fiduciary obligation to protect its facilities.

No

See comment 6.

No

See comment 6.

See comment 6.

Individual

Amir Hammad

Constellation Power Source Generation

Yes

Yes

Yes

Yes

Yes
Yes
Constellation supports the SDT justifications and offers additional information in our response to question 10.
Yes
Yes
Constellation appreciates and supports the work of the standard drafting team. We recognize the significant time invested by technical experts from industry to consider the appropriate application of reliability standards to address concerns raised about coverage of transmission at the generator interface. The drafting team analysis identified the standards in need of revision to appropriately address the reliability concerns raised. While the revision process focuses on specific standards, it is important to consider the reliability questions in the context of the full complement of reliability standards that apply to entities. For instance, the following standards already apply to generators and relate to the reliability considerations around transmission at the generator interface: • PRC-001-1 addresses coordination of protection system components by requiring all GOs to ensure coordination of their protection system with interconnected parties. Further, FAC-002 requires that all new facilities undergo reviews by the TOP, BA, etc. • PRC-004-1 requires all GOs to ensure that they analyze all misoperations on their protection system which would include the protection of the tie line. • TOP standards applicable to GOs aid coordination between a GO and a TO with regards to the generator tie line by requiring all GOs to coordinate all maintenance and emergency outages (both forced and planned) with all applicable interconnected parties. Further, all ISO procedures require the same of GOs. • RC, TOP and/or BA certified operators control and are responsible for overseeing that transmission. According to the NERC functional model, a Generator Operator is defined as “operat(ing) generating unit(s) and perform(ing) the functions of supplying energy and reliability related services.” Given this limited scope, the Generator Operator (GOP) cannot be considered as operating on the same level as the Reliability Coordinator, Transmission Operator or Balancing Authority when it comes to real time information on the status of the BES. The GOP does not monitor and control the BES, rather the GOP only monitors and controls the generators that it operates and relays information to other operating entities. • IRO and TOP standards applicable to GOs include tie lines in their pool of resources to alleviate operational emergencies by requiring all GOs to operate as directed by their TOP, BA, or RC as directed and must render emergency assistance. • FAC-8 and FAC-9 manage rating methodology consistency by requiring all GOs to develop a methodology to rate all equipment, and that the RC has the authority to challenge the GO on that methodology. The onus is on the GO to either change their methodology and rating accordingly, or provide a technical justification as to why they cannot adopt the changes. Further, a generator will never be limited by its tie line, as a generator’s profits are directly tied to its output. Therefore no generator would limit its facility to the equipment that is delivering that output.
Individual
Dennis Chastain
Tennessee Valley Authority
No
Suggest that the overall structure of the standard be revised such that R1 – R3 are applicable to the Transmission Owner (consistent with existing FAC-001-0) and R4 (the new requirement) is applicable to the “applicable Generator Owner”. See further comments below. Support the proposed revisions to R1 and R4, but suggest R4 be returned to R3 (consistent with existing FAC-001-0). R3 in the balloted standard should be returned to R2 (consistent with existing FAC-001-0) and only be applicable to the Transmission Owner. R3.1 (or R2.1 if moved back) should be “fixed”, but it may be beyond this SDT’s charge. The use of “above” in the FAC-001-0 standard, or the proposed reference to “Requirements R1 or R2” in the proposed standard do not make sense in combination with the colon used at the end of the requirement. Suggest that R3.1 (or 2.1 if moved back) be revised as written below and all sub-

requirements of R3.1 be elevated (R3.1.1 becomes R3.2, R3.1.2 becomes R3.3, etc.). "R3.1 Performance requirements and/or planning criteria used to assess system impacts." R2 in the balloted standard should become R4 and modified to incorporate the connection requirements contained in R3 that can more reasonably be expected of an "applicable Generator Owner". For instance, an "applicable Generator Owner" might simply have a connection requirement for a third party that addresses coordination of system impact studies with the appropriate Transmission Owner(s), in lieu of R3.1, R3.1.1, and R3.1.2. Suggest that R2 (or R4 if moved below existing FAC-001-0 requirements) be revised as written below. "R2 Each applicable Generator Owner that has agreed to allow a third party Facility owner (Generation Facility, Transmission Facility, or End-user Facility) to connect to the Transmission system through use of pre-existing applicable Generator Owner Facilities shall communicate it's Facility connection requirements to the third party. The applicable Generator Owner Facility connection requirements shall address the following items: R2.1 Coordination of system impact studies with the Transmission Owner. R2.2 Voltage level and MW and MVAR capacity or demand at point of connection. R2.3 Breaker duty and surge protection. R2.4 System protection and coordination R2.5 Metering...." Etc.

Yes

No comments

Yes

No

Group

Southern Company

Antonio Grayson

No

1) R4 is duplicative of R1 - either remove "maintain" from R1 or delete R4 - both instances of "maintain" are not needed. 2) The measures, as written, provide no additional indication of the evidence that could be presented to demonstrate compliance with the Reliability Standard Requirements. They provide little guidance on assessing non-compliance with the Requirements.

No

See our response to Question 9.

No

All of these comments pertain to FAC-003-3: 1) We suggest referring to the Implementation Plan in the Effective Date sub-section of Section A of the standard rather than repeating the content of the Implementation Plan in the standard. There exists unnecessary duplication with including the information in both places. 2) We suggest simplifying the purpose statement to more succinctly say the intent, for example: "To maintain a reliable transmission system by managing vegetation located on transmission rights of way to minimize vegetation encroachments and thereby minimize the risk of vegetation related outages". If this change is not acceptable, at least change the phrase "preventing the risk" to "minimizing the risk". 3) We feel that the Enforcement paragraphs between 4.3.1.3 and 5.0 seem to be out of place. Those paragraphs don't belong in this location - consider moving them to Section C. Compliance. The fourth paragraph belongs in the background section. 4) We suggest moving the background section to Section F. "Associated Documents". It gets in the way of getting to the requirements of the standard. 5) We suggest moving Table 2 of the "Guideline and Technical Basis" document into R1, since it seems to be the only part of the document that is enforceable. Further we suggest that the Guideline and Technical Basis document be removed from the standard. The inclusion of this document in the standard makes the standard unweildy. 6) We suggest reordering the words in R1 to more clearly state the requirement. Please consider this rephrasing: "For lines which are either an element of an IROL or an element of a Major WECC Transfer Path, each

applicable TO and applicable GO shall manage vegetation to prevent encroachments into the MVCD of its applicable line(s) when operating within their Rating during all Rated Electrical Operating Conditions of the types shown below: ..." (remainder is unchanged). 7) We suggest reordering the words of R2 to more clearly state the requirement. Please consider the this rephrasing: "For lines which are neither an element of an IROL nor an element of a Major WECC Transfer Path, each applicable TO and applicable GO shall manage vegetation to prevent encroachments into the MVCD of its applicable line(s) when operating within its Rating and during all Rated Electrical Operating Conditions of the types listed below: ..." (remainder is unchanged). 8) On Page 11 of the posted clean draft standard, is the reference to the previous footnote 2 correct? We recommend eliminating footnotes where possible to minimize redirections. 9) The Rationale text-box on page 13 of the clean version of FAC-003-3 overlaps some of the text of footnote #6.

Yes

The development of a working TVMP will take some time to initialize. The 1 year time frame for R3 is appropriate. The 2 year time frame for all other requirements is appropriate.

No

We believe that a standard development process should not have parallel paths where the same version is being modified by multiple teams. The uncertainty in which development path leads to confusion in the industry and ultimately proves to have wasted some resources for the path that does not come to fruition.

Yes

Additional responses are needed to justify the exclusion of the list of requirements and standards found in the recent FERC order denying the rehearing request of the Compliance Registry Appeals of Cedar Creek and Milford. (135 FERC Para. 61,241). Please see our response to Question 10 for a detailed discussion on this topic.

No

We don't believe the effort realizes the goal because 1) it is inclusive of FAC-001 that does not need any modifications and 2) the effort needs to reinforce the appropriate justification not to include the additional standards FERC has identified in their Cedar Creek and Milford Orders.

Yes

The version history table is incorrect - change version 3 to version 2.1.

Yes

Southern does not think that the revision to FAC-001-1 is necessary. A Generator Owner (GO) cannot assess reliability impacts to the Bulk Electric System (BES) and determine acceptability without support and involvement of the applicable owner and operator of the Transmission System (i.e., the "interconnected TO" or "interconnected TP"). A generator tie-line does not equate to a Transmission System. A GO must already adhere to a TO's Facility connection requirements whether the GO wants to connect additional facilities or a third parties' facilities to its own interconnection Facilities. Stated another way, the GO does not need Facility Connection requirements to govern how multiple units are tied to a collector bus so why are they needed for a third party to connect to an existing tie-line? In either case it is the interconnected TO or interconnected TP that has connection requirements that must be fulfilled. The GO's Interconnection Agreement would prohibit it from connecting additional facilities without a new application for Interconnection Service with its interconnected TO or interconnected TP. A GO should not need to develop "connection requirements" unless it is in the business of owning and operating facilities independently of its interconnected TO or interconnected TP. We do not believe a reliability gap exists in FAC-001-1 because the requestor for interconnecting another Facility to an existing generation Facility must coordinate with the applicable TO, TP, and PA in accordance with FAC-002-0 to ensure they meet all applicable facility connection and performance requirements. If and when there is an agreement in place for a third party to connect to a generator tie-line then the tie-line would become part of the integrated system and its purpose and the owner's function would likely warrant registration as a TO/TOP and FAC-001 would then apply. The following excerpt from the 2010-07 Background Resource White Paper acknowledges that this may be necessary: "The drafting team also acknowledges that, if another party interconnects to a Facility owned by a Generator Owner, there may be the need to address MOD or TPL standards. However, the drafting team believes that this, too, is best handled through specific evaluation, perhaps accompanied by changes to the compliance registry. Entities that face this kind of scenario may also meet criteria applicable to other registrations such as Transmission Service Provider or

Transmission Planner." [Arguments related to jurisdictional, interconnection policy and open access transmission tariff issues] (1) Because of (a) jurisdiction under Section 215, (b) FERC's interconnection policy, and (c) the requirements of the pro forma open access transmission tariff (OATT), a GO should not be required to comply with FAC-001-1 until that GO's generating Facility reaches commercial operation. NERC should not make facilities subject to the mandatory reliability standards before the facilities are actually part of the BES. (a) Jurisdiction under FPA Section 215. First, it is not clear that NERC or FERC has jurisdiction under FPA Section 215 to require generation facilities that have not actually reached commercial operation to be subject to reliability standards. Section 215(a)(2) of the FPA defines the "Electric Reliability Organization" as "the organization certified by the Commission ... the purpose of which is to establish and enforce reliability standards for the bulk-power system, subject to Commission review." Further, (a)(3) provides that "The term 'reliability standard' means a requirement, approved by the Commission under this section, to provide for reliable operation of the bulk-power system. The term includes requirements for the operation of existing bulk-power system facilities ... the design of planned additions or modifications to such facilities to the extent necessary to provide for reliable operation of the bulk-power system" Thus, under Section 215 NERC can develop reliability standards that address requirements for existing bulk-power system facilities (i.e., facilities that have reached "commercial operation") and for the design of planned additions or modifications. It is logical to interpret the phrase "design of new facilities" as meaning that new facilities must be designed to comply with existing reliability standards. However, it is not clear that this provision should be interpreted as requiring that a generating facility that has not yet reached commercial operation should be subject to reliability standards (including audit and penalties). Therefore, the GO with the existing generation facilities should not be required to incorporate the proposed generation facility into its Facility connection requirements before the proposed generation facility is subject to NERC or FERC jurisdiction. (b) FERC's interconnection policy. In addition, the revised FAC-001 would appear to place restrictions on interconnection customers in contravention of Order Nos. 2003 and 2006 (Standard Large and Small Interconnection Procedures and Agreements). FERC was very concerned about the ability of interconnection customers to interconnect their generating facilities and gave them a fair amount of flexibility. However, this revised FAC-001 would appear to restrict some of this flexibility. (i) Order No. 2003 gives the interconnection customer the ability to terminate a proposed interconnection on ninety days notice. Therefore, the interconnection customer is not required to build the facility. However, this revised FAC-001 appears to assume that the interconnection customer does not have this flexibility. What if the interconnection customer (the GO building a new generator on its site or the third party building a new generation facility) decides to terminate the Large Generator Interconnection Agreement (LGIA) or not proceed with the generation facility? In such event, the GO may be required to revert to its previous Facility connection requirements in order to accommodate the original configuration. (ii) The LGIA permits modifications to the proposed interconnection. How would this affect the Facility connection requirements? How long would the GO have to revise its Facility connection requirements? In the event that there is a single modification, or perhaps multiple modifications, how does the GO stay in compliance with this standard? (iii) FAC-001-1, R4 provides that each GO with Facility connection requirements and each TO shall maintain Facility connection requirements and make documentation of these requirements available to users of the Transmission System upon request. However, Large Generator Interconnection Procedures (LGIP), Section 3.4 requires the posting of certain interconnection information but the identity of the interconnection customer is not to be disclosed (unless it is an Affiliate). Requirement R4 would appear to potentially require disclosure of information and (more importantly) of the interconnection customer's identity in contravention of the requirements in Order No. 2003 and the LGIP. (c) OATT requirements. The definition of "applicable Generator Owner" (Section 4.2.1) and Requirement R2 provide that the GO will have an executed Agreement to evaluate the impact of interconnecting a new facility to the GO's existing generation facility. This statement is ambiguous. This statement could be understood to mean that the GO of the existing generation Facility will enter into an Agreement with the GO proposing to interconnect and the existing GO will evaluate the impact of the proposed interconnection. However, requests to interconnect new generation are processed under an OATT. In that case, it would be the Transmission Provider (not the existing GO) that would evaluate the impact of interconnecting the new facility. Thus, the language in FAC-001-1 would need to be revised to clarify that the owner of the new facility will need to interconnect under the OATT of an appropriate Transmission Provider (i.e., the Transmission Provider to which the existing GO is interconnected, not with the existing GO). Therefore, the owner of the new facility will most likely be the entity with the executed Agreement

(with the Transmission Provider). Another consideration is that the existing GO could be developing a merchant transmission line. In that case, the existing GO would need to evaluate whether it needs have its own OATT and OASIS. In that case, the new generator owner would be interconnecting to the existing GO. However, the existing GO's line would not be a generator tie-line. This issue is not clear from the draft standard. (2) The following are suggested changes to FAC-001-1. (a) We recommend the Purpose statement be revised to state, "To avoid adverse impacts on BES reliability..." (b) It is unclear in Applicability section 4.2.1 that the term "Agreement" means that the GO has an executed agreement with a TO/TSP or that the GO and the third party have an executed agreement. Without further explanation, the capitalized term "Agreement" has the effect of introducing confusion. If the SDT does not intend to propose a new addition to the NERC Glossary of Terms, it should use the lower case term, "agreement." With respect to the capitalized term, "Transmission System," the SDT should consider clarifying if it intends to propose adding this to the Glossary. (3) Effect of the proposed revisions to FAC-001-1 on FAC-002-1. (a) As drafted, there are scenarios under which a new GO may attempt to interconnect to an existing GO even though, as explained above, the interconnection should actually be done to the appropriate Transmission Provider. If the appropriate Transmission Provider is not included in the evaluation of the interconnection various types of harm may occur. In such event, the TPs and PAs should be indemnified from any liability with respect to performance of the evaluations required by FAC-002. (b) FAC-001 and FAC-002 should be revised to be clear that the existing GO and any new GOs must coordinate any interconnection with the appropriate Transmission Provider, TP and PA.

We agree with the 2010-17 Standard Drafting Team's conclusion to not modify other standards such as those mentioned on page 4 of the Technical Justification document. In addition, we wish to provide the following support for exclusion of these specific standards. Southern Company believes NERC's Project 2010-07 SDT must challenge making revisions to the standards included in the FERC order on Cedar Creek and Milford. (This order supports NERC's requirement for those entities to register as a TO/TOP due to their ownership of generator interconnection circuits > 100kV.) We believe there are clear technical and reliability-based reasons that support not adding GO and GOP requirements to these standards and not requiring the GO or GOP to register as a TO or TOP. Furthermore, we also believe there are clear distinctions between GO/GOP responsibilities and TO/TOP responsibilities that must be maintained to ensure BES reliability. Revising standards to assign TO/TOP responsibilities to a GO/GOP or requiring a GO/GOP to register as a TO/TOP because of generator interconnection circuits > 100kV will reduce the clarity of these responsibilities. We have provided specific comments on each standard below: EOP-005-1 R1, R2, R6, R7 R1 and R2 require each TOP to have and maintain a system restoration plan. R6 requires the TOP to train its operating personnel in implementing this plan. R7 requires the TOP to verify its restoration plan by actual testing or simulation. These requirements are clearly the role and responsibility of the TOP, not a GO/GOP who happens to have generator interconnection facilities in the TOP's control area. The GOP's roles and responsibilities are clearly and appropriately addressed EOP-005-2. The presence of a generator interconnection circuit > 100kV that happens to be owned by the GO instead of the TOP fundamentally does not change the roles and responsibilities of the TOP or the GOP. Thus, no changes due to EOP-005 are needed. FAC-014-2, R2 FAC-014-2 R2 states "The Transmission Operator shall establish SOLs (as directed by its Reliability Coordinator) for its portion of the Reliability Coordinator Area that are consistent with its Reliability Coordinator's SOL Methodology." FAC-014-2 R2 should not be revised to include GOPs. The GO is required by FAC-008-1 R1 and FAC-009-1 (FERC approved version) and pending FAC-008-3 R3 and R6 (FAC-008-3 filed with FERC for approval) to document the Facility Ratings for a GO-owned generator interconnection circuit >100kV. The established Facility Rating must respect the most limiting applicable equipment rating in the circuit and must consider operating limitations and ambient conditions. The thermal or ampere rating of this circuit would equal its ampere operating limit and should be conveyed by the GO to the GOP if they are not the same entity. The operating voltage limits for this circuit are established by the applicable TO/TOP, not the GO or GOP. Therefore, we believe adding the GO to FAC-014-2 R2 would be redundant. PER-003-1 R2, R2.1, R2.2 PER-003-1 R2 and its sub-requirements state: "R2. Each Transmission Operator shall staff its Real-time operating positions performing Transmission Operator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates (1) : [Risk Factor: High][Time Horizon: Real-time Operations]: R2.1. Areas of Competency R2.1.1. Transmission operations R2.1.2. Emergency preparedness and operations R2.1.3. System operations R2.1.4. Protection and control R2.1.5. Voltage and reactive R2.2. Certificates • Reliability Operator • Balancing, Interchange and Transmission Operator •

Transmission Operator This requirement is specifically for TOPs. Personnel training for GOPs needs to be addressed separately and not mingled with responsibilities of the TOP. The GOPs role in supporting BES reliability needs to be clearly understood and defined prior to establishing training requirements in the standards. PRC-001-1, R2, R2.2, R4, R6 Generator Operators (GOPs) and the scope of protection equipment for generation interconnection Facilities are already appropriately accounted for in this standard in requirement R2 and sub-requirement R2.2 The language used in requirement R2 which applies to the GOP uses the general terms "relay or equipment failures" which would include not only generator relaying, but generator interconnection relaying in the GOPs scope as well. The GOP is required to notify the TOP and Host BA in R2.1 "if a protective relay or equipment failure reduces system reliability." Requirement R2.2 requires the affected TOP to notify its RC and affected TOPs and BAs. Thus, applying R2.2 to a GOP would be redundant to R2.1. Requirement R4 states, "Each Transmission Operator shall coordinate protection systems on major transmission lines and interconnections with neighboring Generator Operators, Transmission Operators, and Balancing Authorities." A generator interconnection tie line does not constitute a "major tie line" or major "interconnection with neighboring GOPs, TOPs, and BAs." Thus, R4 should not be revised to include GOPs. If a GO exists within NERC that does own such interconnection facilities, the responsibility for coordination of protection systems on such a line or interconnection should be the responsibility of the TOP in that area, not the GO/GOP. This may require formal agreements between the TO/TOP and GO/GOP, since the GO may own protection equipment on his end. The same logic applies to R6. R6 states, "Each Transmission Operator and Balancing Authority shall monitor the status of each Special Protection System in their area, and shall notify affected Transmission Operators and Balancing Authorities of each change in status." This is clearly the responsibility of the TOP and/or BA, not a GO/GOP who happens to have generator interconnection facilities in the area. An SPS function by definition is to maintain BES reliability. If a GO/GOP has equipment within the equipment scope of a Special Protection System (SPS), responsibility for monitoring the SPS should be conveyed in a formal agreement as appropriate. TOP-001-1 R1 Requirement R1 states, "Each Transmission Operator shall have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its area and shall exercise specific authority to alleviate operating emergencies." This is clearly the responsibility of the TOP, not a GO/GOP who happens to have generator interconnection facilities in the TOP's area. Thus, R1 should not be applied to a GO/GOP who owns or operates generator interconnection facilities. Furthermore, TOP-001-1 R3 (proposed to be covered in the future in the proposed IRO-001-2 R2 and R3) appropriately requires the GOP to comply with reliability directives issued by the TO "unless such actions would violate safety, equipment, regulatory or statutory requirements." These requirements effectively give the TOP the necessary decision-making authority over operation of all generator Facilities up to the point of interconnection. They also give the GOP the necessary authority to take appropriate actions to ensure safety and protection of the GO's equipment. Thus, no changes to TOP-001-1 are necessary. TOP-004-2 R6, R6.1, R6.2, R6.3, R6.4 Requirement R6 and its sub-requirements state: "R6. Transmission Operators, individually and jointly with other Transmission Operators, shall develop, maintain, and implement formal policies and procedures to provide for transmission reliability. These policies and procedures shall address the execution and coordination of activities that impact inter- and intra-Regional reliability, including: R6.1. Monitoring and controlling voltage levels and real and reactive power flows. R6.2. Switching transmission elements. R6.3. Planned outages of transmission elements. R6.4. Responding to IROL and SOL violations." These are clearly the responsibility of the TOP, not a GO/GOP who happens to have generator interconnection facilities in the TOP's area. Thus, these requirements should not be applied to a GO/GOP who owns or operates generator interconnection facilities. The same logic applies here as stated above in our discussion on TOP-001-1. We believe it is inappropriate and would be adverse to BES reliability to apply these requirements to a GOP. TOP-004-2 effectively gives the TOP the necessary decision-making authority over operation of all generator Facilities up to the point of interconnection. They also give the GOP the necessary authority to take appropriate actions to ensure safety and protection of the GO's equipment, such as opening high voltage generator output breakers when required to protect the unit. Thus, no changes to TOP-004-2 are necessary. TOP-006-2 R3 Requirement R3 states, "R3. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall provide appropriate technical information concerning protective relays to their operating personnel. The intent of this requirement when applied to a GOP is already addressed in PRC-001-1 R1 which states, "Each Transmission Operator, Balancing Authority, and Generator Operator shall be familiar with the purpose and limitations of protection system schemes applied in its area." Thus, no change to TOP-006-2 is necessary.

Group
ACES Power Marketing Standards Collaborators
Jason Marshall
Yes
We largely agree with the changes the drafting team made but believe some additional changes are necessary. In section 4.2.1 of the Applicability Section, "within" should be "with". Because NERC's Glossary of Terms establishes that an Agreement can be verbal and not enforceable by law, section 4.2.1 should be further modified to clarify that it is a legally enforceable and fully executed Agreement. The language in R3 in parenthesis after Generation Owner should be modified to "once required by Requirement R2". This makes it clearer that R3 does not apply until the GO has an executed Agreement to evaluate a request by a third part to interconnect.
Yes
Yes
We support the changes to FAC-003 suggested by the drafting team because we believe the drafting team has provided the best solution in face of a difficult problem. However, in general, we do not support registration of GOs and GOPs as TOs and TOPs or applicability of any TO/TOP requirements to the GO/GOP simply because they have a radial interconnection greater than one mile in length. While there may be some generators that own interconnecting facilities of significant length operated at a significant voltage that could impact BES reliability, we do not believe that the number of generating facilities that fit into that category is significantly large. When one considers that the majority of generators are still owned and operator by utilities that are also registered as a TO and TOP, there is only a minority subset of generators left that could be considered. NERC has the registration for this remaining set of generators and could use the data to evaluate how many of this remaining subset have interconnections owned by the generator that are substantial enough to affect reliability. It seems that NERC could determine the boundaries of this problem before registering anymore GOs and GOPs as TOs and TOPs or before applying additional requirements through this effort on the GOs and GOPs.
Yes
Yes
With recent NERC BOT approval of the FAC-003-2 standard, the drafting team should continue to monitor the standard progress with FERC and make necessary adjustments to the implementation plan.
Yes
Yes
No
The modifications are largely the appropriate ones with the exceptions we noted in Q1 and Q10.
The modifications to PRC-004-2.1 R2 could be interpreted as requiring the GO to analyze Protection System Misoperations on the generator interconnection Facility even if it does not own the Facility. We suggest modifying the requirement as shown below to address this issue. "The Generator Owner shall analyze Protection System Misoperations on its generator and generator interconnection Facility that it owns ..."
Group
Western Electricity Coordinating Council
Steve Rueckert

No
WECC casts an affirmative vote for the SDT proposal as a necessary but not sufficient step in addressing the GOTO matter. WECC, NERC, and the other Regions developed a subset of Standards and Requirements that were considered necessary to address potential gaps for transmission interconnection facilities and operations to be included in a proposed NERC Directive, which is expected to issue by year-end. The subset of requirements developed for the proposed NERC Directive were informed by the applicable FERC Orders. Consequently, it is important that the SDT address the comparative reliability risks between the proposed NERC Directive List and the SDT Proposal to assure that reliability gaps will not result from the SDT proposal. Please see NERC's proposed Directive for the rationale and technical justification.
Please see response to question #7.

See additional comments received attached.

Additional Comments Received

Generator Requirements at the Transmission Interface (Project 2010-07)

NERC Comments:

1. Based on stakeholder comment, the SDT clarified the applicability language of FAC-001-1 and removed the Generator Owner from R4. Do you support the proposed redline changes to FAC-001-1? (Please refer to the posted FAC-001-1 technical justification document for more information about the SDT's rationale for its changes.)

Yes

No

Comments:

2. Do you support the one year compliance timeframe for Generator Owners as proposed in the Implementation Plan for FAC-001-1?

Yes

No

Comments: There appears to be no rationale for allowing one year for the development of connection requirements given the Technical Justification rationale that the compliance clock starts "if and only if when it executes an Agreement to evaluate....", recognizing the time lag indicated in the Technical Justification.

3. With respect to FAC-003, many commenters focused on the half-mile qualifier in FAC-003. Some commenters found the half-mile length too short, others found it too long, and still others found the choice among the starting points of the switchyard, generating station, or generating substation to be confusing. The drafting team attempted to address all of these concerns with its latest proposed standard changes. The qualifier now reads: "...that extends greater than one mile beyond the fenced area of the generating station switchyard..." We believe that the one mile length is a reasonable approximation of line of sight, and that using a fixed starting point (at the fenced area of the generation station switchyard) eliminates confusion and any discretion on the part of a Generator Owner or an auditor. Finally, we maintain that it is appropriate to include this qualifier for Generator Owners because there is a very low risk from vegetation within the line of sight, and thus the formal steps in this standard are not necessary to ensure reliability of these lines.

Taking into consideration that only one of the versions of FAC-003 will actually be implemented, a decision that will be made as Project 2007-07—Vegetation Management moves forward, do you support the proposed redline changes to FAC-003-X and FAC-003-3?

Yes

No

Comments:

4. Do you support compliance timeframe for Generator Owners as included and explained in the Implementation Plans for FAC-003-X?

Yes

No

Comments:

5. In the FAC-003-3 implementation plan, the SDT has attempted to account for a number of different scenarios that could play out with respect to the filing and approvals of FAC-003-2 and FAC-003-3. Do you support this approach? If there are other scenarios that the SDT needs to account for, please suggest them here.

Yes

No

Comments:

6. In its technical justification document, the SDT reviews all standards that had been proposed for substantive modification in the Ad Hoc Group's original support and explains why, with the exception of FAC-003, modifying them would not provide any reliability benefit. Do you support these justifications? If you believe the SDT needs to add more information to its rationale for any of these decisions, please include suggested language here.

Yes

No

Comments: Please see the comments to Question 7 for the rationale for expanding the scope of the SDT to address additional Standards.

7. The SDT is attempting to modify a set of standards so that radial generator interconnection Facilities are appropriately accounted for in NERC's Reliability Standards, both to close reliability gaps and to prevent the unnecessary registration of GOs and GOPs at TOs and TOPs. Does the set of standards currently posted achieve this goal?

Yes

No

Comments:

Regarding Project 2010-07 Generator Requirements at the Transmission Interface, NERC staff advises the SDT revisions to the following Standards must be included, for all facilities that are deemed to be 'BES Transmission Facilities more commonly described as Generator Leads':

a) EOP-005-1 R1, R2, R5, R6 and R7

Revisions to this Standard are needed to respond to:

- If GOP has blackstart resources defined by its RC, then EOP-005 applies. The GOP restoration plan would require coordination with TOP per the TOP Blackstart Restoration Plan. The GOP would start its blackstart resources to provide necessary real and reactive power to its generating resources per interconnecting TOP directives. (Note: In addition, if GOP has blackstart capability the interconnection TOP will have included this capability in its restoration planning for its area of responsibility.)

- If GOP does not have blackstart resources, GOP restoration plan is dependent upon provision of real and reactive power service from interconnecting TOP, per VAR-001 and VAR-002 requiring the GOP to follow the directives of the interconnecting TOP, compliance with this standard/requirements is not required.

b) FAC-014-2 R2

If the Transmission system has associated SOLs as directed by its RC, the applicable GOP shall establish these limits per the RC's direction

c) PER-002-0

In order that the requirements of PER-003-0 are not applied, PER-002 should be revised to require the applicable GOP should develop an appropriate training program that contains the necessary elements for the GOP operating their Transmission facility to understand fully the impacts of operation on the BES; such as a) equipment involved, including protection systems, b) the coordination aspects with the TO/TOP to which it is connected, and c) the protocols for and impacts of operating facilities associated with a Transmission facility. The objective of this training is to ensure that the GOP is completely aware of its obligations to have the ability to follow the directives of the appropriate TOP. This ability includes personnel with the skills and training to execute these obligations in the best interest of reliability concerning the reliable operational and coordination issues with the interconnecting TOP.

Therefore, for all generators that are determined to be a typical Generator Long Lead type facility, revising PER-002 would provide a method that recognizes full NERC Certification of operators at these type generators is unnecessary to bridge the reliability gap that exists until all appropriate Reliability Standards are revised to incorporate the proper wording. The basis of this conclusion is through a rudimentary technical evaluation of the topics required for full NERC Certified Operator initial certification. This review resulted in only 25% of the topics included in the certification testing requirements would generally apply to operators at a typical Generator Long Lead type facility. Consequently, revising PER-002 would provide adequate training that will meet the facts and circumstances of each specific generator and as such bridges the reliability gap.

A component of this training might be NERC Technical Reference Document '*Power Plant and Transmission System Protection Coordination*'.

(<http://www.nerc.com/docs/pc/spctf/Gen%20Prot%20Coord%20Rev1%20Final%2007-30-2010.pdf>)

- d) PRC-001 In order to avoid confusion, revise R1 to require the applicable GO to maintain, and the applicable GOP, to monitor those systems defined as BES Transmission metering and protection circuits/systems above and beyond the Generation equipment metering and protection circuits/systems; and R4 to coordinate Transmission protection systems with the interconnection TOP's protection system that apply.

- e) PRC-005 In order to avoid confusion, revise the Standard R1 to require the applicable GO to develop a program which includes those maintenance and testing intervals and a summary of procedures for those systems defined as BES Transmission metering and protection circuits/systems above and beyond the Generation metering and protection circuits/systems.
- f) TOP-001-1 R1 Applicable GOPs assigned to operate their BES Transmission facilities have clear and unambiguous authority to operate those facilities.
- g) TOP-004-2 R6 Applicable GOPs to develop formal policies and procedures that provide for coordination of activities associated with their Transmission facilities that may impact reliability with their interconnecting TOP and/or GOPs identified in FAC-001
- h) TOP-006-1 R3 Applicable GOPs provide appropriate technical information concerning Transmission metering and protection circuits/systems to their operating personnel.

8. If you answered "yes" to Question 7, are the modifications the SDT has made in this posting the appropriate ones?

Yes

No

Comments: See full comments in Question 7

9. If you answered "no" to Question 7, what standards need to be added or removed to achieve the SDT's goal? Please provide technical justification for your answer.

Yes

No

Comments: See full comments in Question 7 and also refer to question 6 and the reference to the Final Report from the Ad Hoc Group for Generator Requirements at the Transmission Interface, dated Nov 16, 2009

10. Do you have any other comments that you have not yet addressed? If yes, please explain.

Yes

No

Comments:

Notwithstanding the comments in the SDT's Technical Justification paper relative to work within other existing or future Standard Development Projects, we advise this SDT to expand its scope to include the above listed necessary Standards revisions.