

Vegetation Management SAR Drafting Team

June 6, 2007 (8 a.m.–5 p.m.)
June 7, 2007 (8 a.m.–12 noon)

Clearwater, FL

Agenda

- 1. Administrative Items**
 - a. Introductions and Quorum – All
 - b. NERC Antitrust Compliance Guidelines – Harry Tom
 - c. Review Meeting Agenda & Objectives – Richard Dearman
- 2. Review & Finalize SAR Comment Responses**
- 3. Review and Finalize SAR- Richard Dearman**
 - a. Update SAR as necessary to reflect comments
 - b. Decide on future course of SAR
 - 1) Re-post for additional comments
 - i. Formulate the next question set
 - 2) Forward to SC for authorization
- 4. Review Action Items & Schedule – Harry Tom**
- 5. Schedule Next Meeting – Richard Dearman**
- 6. Adjourn**



NERC Antitrust Compliance Guidelines

I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely

impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.
- Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

The SAR Vegetation Management standard requesters thank all commenters who submitted comments on Draft 2 of the SAR. This SAR was posted for a 30-day public comment period from April 20 through May 9, 2007. The requesters asked stakeholders to provide feedback on the SAR through a special SAR Comment Form. There were 27 sets of comments, including comments from 65 different people from more than 50 companies representing 7 of the 10 Industry Segments as shown in the table on the following pages.

Based on the comments received, the drafting team is recommending .

In this "Consideration of Comments" document stakeholder comments have been organized so that it is easier to see the responses associated with each question. All comments received on the standards can be viewed in their original format at:

http://www.nerc.com/~filez/standards/Vegetation-Management_Project_2007-7.html

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

¹ The appeals process is in the Reliability Standards Development Procedures: <http://www.nerc.com/standards/newstandardsprocess.html>.

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Commenter		Organization	Industry Segment											
			1	2	3	4	5	6	7	8	9	10		
1.	Anita Lee (G1)	AESO		✓										
2.	Jay Farrington (G5)	Alabama Electric Coop.	✓											
3.	Randy Gann (G5) (G6)	Alabama Power	✓											
4.	Ken Goldsmith (G6)	ALT												✓
5.	Mary Hetz	Ameren	✓											
6.	Raymond Wiesehan (G5)	Ameren	✓											
7.	Thad Ness	American Electric Power	✓					✓	✓					
8.	John Neagle (G5)	Associated Electric Coop.	✓											
9.	William T. Rees, Jr.	Baltimore Gas & Electric												
10.	Dave Rudolph (G6)	Basin Electric Power Coop.												✓
11.	Brent Kingsford (G1)	CAISO		✓										
12.	John R. Kellum, Jr.	CenterPoint Energy	✓											
13.	Weston J. Davis	Central Maine Power	✓											
14.	CJ Ingersoll	Constellation (CEDC)			✓									
15.	Gene Walton	Dominion	✓											
16.	Gregory Rowland	Duke Energy	✓		✓			✓	✓					
17.	Billy George (G5)	Duke Energy, Carolinas	✓											
18.	Ralph Hale (G5)	Entergy	✓											
19.	Paul D. Olivier	Entergy Corporation	✓											
20.	Steve Myers (G1)	ERCOT		✓										
21.	Marc Tunstall (G5)	Fayetteville Public Works Comm.	✓											
22.	Doug Hohlbaugh	FirstEnergy Corp.	✓											
23.	John Tamsberg	Florida Power & Light Co.	✓											
24.	Nancy Huddleston (G6)	Georgia Power Co.	✓											
25.	Joe Knight (G6)	Great River Energy												✓
26.	Steve Burns (G6)	Gulf Power Co.	✓											
27.	Ken Trump (G6)	Gulf Power Co.	✓											
28.	David Kiguel	Hydro One Networks Inc.	✓											

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	Commenter	Organization	Industry Segment											
			1	2	3	4	5	6	7	8	9	10		
29.	George Juhn	Hydro One Networks Inc.	✓											
30.	Roger Champagne	Hydro-Québec TransÉnergie (HQT)	✓											
31.	Ron Falsetti (I) (G1)	Independent Electricity SO		✓										
32.	Matt Goldberg (G1)	ISO-NE		✓										
33.	Kathleen Goodman (I) G2)	ISO-NE		✓										
34.	Robert Coish (I) (G6)	Manitoba Hydro	✓		✓			✓	✓					
35.	Terry Bilke (G6)	Midwest ISO												✓
36.	Mike Brytowski (G6)	Midwest Reliability Organization												✓
37.	Carol Gerou (G6)	Minnesota Power												✓
38.	Bill Phillips (G1)	MISO		✓										
39.	Steve Craig (G6)	Mississippi Power Co.	✓											
40.	Ron Reinike (G6)	Mississippi Power Co.	✓											
41.	Thomas E. Sullivan	National Grid	✓											
42.	Anthony Johnson	Northeast Utilities		✓										
43.	Mike Calimano (I) (G1)	NYISO		✓										
44.	Todd Gosnell (G6)	OPPD												✓
45.	Stephen Tankersley	Pacific Gas and Electric Co. (PGE)	✓											
46.	Alicia Daugherty (G1)	PJM		✓										
47.	Jack Gardner (G3) (G5)	Progress Energy Carolinas	✓											
48.	John Pinney (G3)	Progress Energy Florida	✓											
49.	Philip Riley (G4)	Public Service Commission SC											✓	
50.	Mignon L. Clyburn (G4)	Public Service Commission SC											✓	
51.	Elizabeth B. Fleming (G4)	Public Service Commission SC											✓	
52.	G. O'Neal Hamilton (G4)	Public Service Commission SC											✓	
53.	John E. Howard (G4)	Public Service Commission SC											✓	
54.	Randy Mitchell (G4)	Public Service Commission SC											✓	
55.	C. Robert Moseley (G4)	Public Service Commission SC											✓	
56.	David A. Wright (G4)	Public Service Commission SC											✓	
57.	John Wolfmeyer (G5)	SERC												✓
58.	Jerry Lindler (G5)	South Carolina E&G	✓											
59.	Roman Carter (G6)	Southern Transmission	✓											
60.	Charles Yeung (G1)	SPP		✓										
61.	Richard Dearman (I) (G5)	TVA	✓											
62.	Jeffrey S. Disorda	VELCO	✓											
63.	Jim Haigh (G6)	WAPA												✓
64.	Neal Balu (G6)	WPSR												✓
65.	Pam Oreschnick (G6)	Xcel Energy												✓

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

I – Indicates that individual comments were submitted in addition to comments submitted as part of a group

G1 – IRC Standards Review Committee (IRC SRC)

G2 – NPCC CP9 Reliability Standards Working Group (NPCC CP9)

G3 – Progress Energy Carolinas/Progress Energy Florida (PGN)

G4 – Public Service Company of South Carolina (PSC SC)

G5 – SERC Vegetation Management Subcommittee (SERC VMS)

G6 – Southern Company Transmission

G7– MRO Members

Index to Questions, Comments, and Responses

1. Do you agree there is a reliability need for the proposed modifications and review of the standard? 6
2. If you are a transmission owner, have you been provided a list from a Reliability Entity (formerly RRO) of sub 200 kV critical transmission lines that must comply with FAC-003-1? 10
3. If you are a transmission owner would you provide your methodology for determining clearance 1 and clearance 2? (As described in FAC-003-1 R1.2.1 and R1.2.2) If so, please attach. 14
4. Are there any other comments regarding the standard, its possible modifications or the SAR? 22

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

1. Do you agree there is a reliability need for the proposed modifications and review of the standard?

Summary Consideration:

Question #1			
Commenter	Yes	No	Comment
Ameren			No comment.
VELCO			No comment.
AEP		<input checked="" type="checkbox"/>	AEP believes that the current standard (when thoroughly read and understood) is completely adequate to maintain a reliable transmission system with minimum risk of vegetation-related outages.
Response:			
Baltimore Gas & Electric		<input checked="" type="checkbox"/>	I'm not convinced that the elements outlined in the proposal will improve reliability and have concerns that the proposed modifications may actually reduce the flexibility that is necessary to promote system reliability or to comply with local regulations. I would prefer to see more specifics in the proposal before supporting the modifications.
Response:			
CenterPoint Energy		<input checked="" type="checkbox"/>	CenterPoint Energy does not agree that a revision to the TVM standard is necessary from a reliability standpoint, and believes that the existing TVM standard is adequate for that purpose.
Response:			
Central Maine Power		<input checked="" type="checkbox"/>	<p>The current Vegetation Management Standard FAC-003-1 has been crafted in such a way as to provide crisp measurable standards that when followed will provide a high level of power quality for the bulk power delivery system. However, clearances between conductors and trees required to prevent tree related power outages must be consistent with each utility's established standards and if a transmission line passes through federal, state or locally managed areas this line placement should not impact the established clearances. Utilities should not be expected to negotiate clearances with multiple land managers.</p> <p>The IEEE 516 – 2003 table is an acceptable table to use as the minimum clearance to prevent a flash over and outages. FAC-003-1 is designed to be a reliability standard and the industry adheres to OSHA and ANSI standards to protect workers and the public. The IEEE 516 – 2003 table lists appropriate distances that should be used to measure compliance. The standard should continue to provide the flexibility for utility managers to increase "Clearance 2".</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #1			
Commenter	Yes	No	Comment
			<p>The definition for right-of-way should be clarified to include only the area that is cleared and included as routine maintenance.</p> <p>We agree that there is a need to establish time horizons and clarify violation levels.</p>
Response:			
Duke Energy		<input checked="" type="checkbox"/>	<p>From a reliability perspective, the current standard contains appropriate requirements and measures to ensure the Transmission Owner's vegetation management program is implemented and managed to ensure the reliability of the transmission system. However the standard should be revised to address non-reliability related items that are in the SAR.</p>
Response:			
HQT		<input checked="" type="checkbox"/>	<p>It is our belief that the Standard in its current form does provide adequate provisions and drivers to minimize vegetation related outages and eliminate the likelihood of reoccurrence of the August 14, 2003 blackout. However, it is recognized that the industry needs to consolidate its view on these provisions and we support the preparation of a "white paper" that will document the rationale concerning the requirements of the standard, as well as review certain aspects of the standard that have come into question.</p>
Response:			
Hydro One Networks		<input checked="" type="checkbox"/>	<p>It is our belief that the Standard in its current form does provide adequate provisions and drivers to minimize vegetation related outages and eliminate the likelihood of reoccurrence of the August 14, 2003 blackout. However, it is recognized that the industry needs to consolidate its view on these provisions and we support the preparation of a "white paper" that will document the rationale concerning the requirements of the standard, as well as review certain aspects of the standard that have come into question.</p>
Response:			
National Grid		<input checked="" type="checkbox"/>	<p>National Grid believes that compliance with all elements of the present Standard will result in TO's achieving the reliability objectives set forth in the Standard.</p>
Response:			
Northeast Utilities		<input checked="" type="checkbox"/>	<p>Proposed modifications do not increase the levels of reliability above what is already required in the current version of the Standard.</p>
Response:			
PGN		<input checked="" type="checkbox"/>	<p>Progress Energy Carolinas and Progress Energy Florida are providing an answer to the question as it relates to the reliability need. The current standard contains appropriate</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #1			
Commenter	Yes	No	Comment
			<p>requirements and measures to ensure the Transmission Owner's vegetation management program is implemented and managed to ensure the reliability of the transmission system. In addition, we do not believe that a standard with a zero tolerance for vegetation-related outages in the ROW is in need of reliability-based revisions.</p> <p>However, we do recognize the need for a revision of the standard to address non-reliability related items that are in the SAR. Procedural items such as formatting and clarifications, such as the definition of right-of-way, need to be, and should be, addressed.</p>
Response:			
SERC VMS		<input checked="" type="checkbox"/>	<p>The SERC VMS is providing an answer to the question as it relates to the reliability need. The current standard contains appropriate requirements and measures to ensure the Transmission Owner's vegetation management program is implemented and managed to ensure the reliability of the transmission system. In addition, we do not believe that a standard with a zero tolerance for vegetation-related outages in the ROW is in need of reliability-based revisions.</p> <p>However the SERC VMS recognizes the need for a revision of the standard to address non-reliability related items that are in the SAR. Procedural items such as formatting and clarifications, such as the definition of right-of-way, need to be, and should be, addressed.</p>
Response:			
CECD	<input checked="" type="checkbox"/>		Modifications to capture the Commissions concerns must be addressed therefore these actions are appropriate.
Response:			
Dominion	<input checked="" type="checkbox"/>		We support reinstating the 200kv threshold for reportable events.
Response:			
Entergy Corp.	<input checked="" type="checkbox"/>		The existing FAC-003-1 is flawed and needs revision.
Response:			
FirstEnergy Corp.	<input checked="" type="checkbox"/>		FirstEnergy agrees that clarification on select issues will aid the intent of this NERC Standard.
Response:			

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #1			
Commenter	Yes	No	Comment
Florida Power & Light	<input checked="" type="checkbox"/>		FPL believes the technical portion of the standard provides adequate reliability protection to the system. FPL also recognizes the need to re-format the standard to bring it into conformance with the latest version of the Reliability Standard Development Procedure and the ERO Sanctions Guidelines, to remove references to RRO in the standard and substitute a responsible entity and, add compliance elements such as time horizons, and violation severity levels.
Response:			
IESO	<input checked="" type="checkbox"/>		
IRC SRC	<input checked="" type="checkbox"/>		
ISO-NE	<input checked="" type="checkbox"/>		
Manitoba Hydro	<input checked="" type="checkbox"/>		The definition of ROW should be clarified. The definition of a critical line should not be kept to a particular voltage threshold. However, consideration could also then be given to exempting non-critical lines operating at higher voltage levels (>200kv). Electrical clearances should be consistent whether on Federal or non-Federal land.
Response:			
MRO	<input checked="" type="checkbox"/>		
NYISO	<input checked="" type="checkbox"/>		
PGE	<input checked="" type="checkbox"/>		As stated in the SAR.
Response:			
PSC SC	<input checked="" type="checkbox"/>		
Southern Transm.	<input checked="" type="checkbox"/>		We do not feel there is a reliability need for modifying the standard. However, we do agree certain modifications are needed to clarify procedural issues such as the amount of time allowed for taking corrective action when items are found to be out of compliance.
Response:			
TVA	<input checked="" type="checkbox"/>		The primary needs for modifications to this standard are in areas to address clarifications and formatting not reliability related issues.
Response:			

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

2. If you are a transmission owner, have you been provided a list from a Reliability Entity (formerly RRO) of sub 200 kV critical transmission lines that must comply with FAC-003-1?

Summary Consideration:

Question #2			
Commenter	Yes	No	Comment
Ameren			No comment.
IESO			No comment.
IRC SRC			n/a
ISO-NE			No comment.
NYISO			n/a
PSC SC			No comment.
Baltimore Gas & Electric		<input checked="" type="checkbox"/>	The reason that we do not have a list of critical lines from the RRO may be that we do not have any lines that fit the criteria.
Response:			
CECD		<input checked="" type="checkbox"/>	SERC does not currently have any sub 200 kV critical transmission lines.
Response:			
CenterPoint Energy		<input checked="" type="checkbox"/>	
Central Maine Power		<input checked="" type="checkbox"/>	The "Northeast Power Coordinating Council Facilities Notification List" may not be the correct list to be used for this standard. FAC- 003-1 should set a clear expectation the each Regional Entity will provide their transmission owners a list of critical lines including any that may be less that 200KV. Will provide list once released from NPCC.
Response:			
Dominion		<input checked="" type="checkbox"/>	
Duke Energy		<input checked="" type="checkbox"/>	The SERC region has not identified any lines below 200kV to be critical to the electrical system in the region. Since no lines have been identified as critical to the region, no list has been provided to Transmission Owners.
Response:			
HQT		<input checked="" type="checkbox"/>	We consider that it should be the Planning Coordinator role to determine the sub 200kV critical transmission lines and even for any transmission lines irrelevant of voltage level. For that, it should follow an impact based methodology such as the one used in NPCC.
Response:			
Hydro One Networks		<input checked="" type="checkbox"/>	

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #2			
Commenter	Yes	No	Comment
Manitoba Hydro		<input checked="" type="checkbox"/>	
MRO		<input checked="" type="checkbox"/>	The MRO We have not generated a list or criteria yet. We have submitted a draft criteria to NERC
Response:			
National Grid		<input checked="" type="checkbox"/>	The Reliability Entity has not provided a list of sub 200 kV lines subject to compliance with FAC-003-1. The Standard became effective in February 2007, just 3 months ago. Having no list today should not imply that the RE or the Standard has failed in any way. National Grid suggests that a revised Standard should direct the RE to produce a list of "sub 200 kV critical transmission lines" within 6 to 12 months of adoption.
Response:			
Northeast Utilities		<input checked="" type="checkbox"/>	The Reliability Entity has not provided a list of facilities covered under FAC-003-1. This is not a fault of the RE as there has been no direction provided as to what factors or characteristics are required for sub-200kV lines to be included under the Standard. It is our position that the factors that will be used to develop the list of sub-200kV facilities to be covered by the Standard be developed at the national level (NERC) and adopted by all RE's for consistency.
Response:			
PGN		<input checked="" type="checkbox"/>	The SERC and FRCC regions have not identified any lines below 200kV to be critical to the electrical system in the region. Since no lines have been identified as critical to the region, no list has been provided to Progress Energy Carolinas and Progress Energy Florida. (Please note our comments on this issue in question #4.)
Response:			
SERC VMS		<input checked="" type="checkbox"/>	The SERC region has not identified any lines below 200kV to be critical to the electrical system in the region. Since no lines have been identified as critical to the region, no list has been provided to Transmission Owners. (Please note the subcommittee's comments on this issue in question #4.)
Response:			
TVA		<input checked="" type="checkbox"/>	We detemined that there are no TVA lines below 200kv that must comply to this standard due to their criticial needs in SERC.
Response:			
VELCO		<input checked="" type="checkbox"/>	VELCO has not been provided a specific list of critical lines below 200 kV from the RE that need to be in compliance with FAC-003-1. VELCO suggests changing the wording in the standard to identify those lines affected as 200 kV and great or those defined as Bulk Power System facilities.
Response:			

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #2			
Commenter	Yes	No	Comment
Entergy Corp.	<input checked="" type="checkbox"/>		<p>Yes, the Reliability Entity (SERC) has performed its duty in evaluating our transmission system. SERC has confirmed that Entergy has no lines operating below 200kV that are critical to system reliability. Entergy has received its "list," but the list is blank.</p> <p>With respect to applicability, it is inappropriate to set a blunt voltage level criterion for determining which transmission lines are critical to bulk system reliability. There is no basis in engineering or in fact for voltage-based categories of applicability. Many lines operating at 200kV and higher essentially serve only local load, and there may in fact be some lines operating below 200kV where the standard should be applied. Many lines of all voltages are redundant and do not even impact local load during an outage. Therefore, the voltage criterion is overly broad.</p> <p>To support this statement, Entergy supplies the following facts:</p> <p>First, during the aftermath of Hurricanes Katrina and Rita, Entergy had (59) 230kV and 500kV lines out of service simultaneously. Additionally, Entergy had (85) 115kV and 161kV lines out of service simultaneously. During the aftermath of Hurricane Rita, Entergy had (41) 230kV and 500kV lines out of service simultaneously. Additionally, Entergy had (124) 115kV and 161kV lines out of service simultaneously. Despite this overwhelming combination of simultaneous outages, no system-wide cascading blackout was initiated. Only local load was lost during restoration. This illustrates that Standard FAC-003-1, as it currently stands placing so much focus and penalty on even single-contingency outages, is overbroad, arbitrary and capricious.</p> <p>Second, each year the Entergy transmission system (like all other large electric utilities) suffers numerous outages from a great number of different sources: material defects, rot and decay, animal damage, human damage, extreme wind, lightning and, vegetation. Over the years 2001 through 2006, 927 transmission lines suffered 5,688 outages from a variety of sources. Vegetation outages accounted for 7.14% of those outages. Each utility is unique, but these numbers are not unusual for a transmission system comprising 15,000 miles of line. Despite this large number of outages, no cascading system black out has been initiated.</p> <p>Finally, Entergy has had as many as 17 transmission lines outaged from a single tornado event without even losing service to local load. Standard FAC-003-1 assigns too much risk to outages in general, and too much risk to vegetation outages in particular.</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #2			
Commenter	Yes	No	Comment
			<p>NERC and the regional reliability entities should define performance criteria that specifically define certain contingencies and certain undesirable outcomes that would classify a line as truly critical to bulk system reliability. The modeling software necessary to do this is readily available and already in use today by the Reliability Entities and their subject utilities.</p> <p>If FERC has concerns about potentially devastating (albeit rare) combinations of multiple simultaneous line outage contingencies, the REs can define strict criteria for multiple contingencies. With respect to lines that result in IROLs and SOLs, these lines can also be identified with specificity, without resorting to blunt voltage distinctions.</p> <p>Defining system-critical lines too broadly is actually detrimental to FERC's reliability goals. It dilutes the resources available to maintain reliability on those lines that truly affect system reliability. Utilities should employ a more focused and intelligent approach to targeted reliability. Such an approach would have benefits to the users of the transmission system and to the ratepayers that pay for it.</p>
Response:			
Florida Power & Light	<input checked="" type="checkbox"/>		
Response:			
PGE	<input checked="" type="checkbox"/>		Provided from WECC
Response:			
AEP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Of the three regions in which AEP has transmission facilities, only one RE has provided a listing of sub-200 kV facilities of what we consider applicable under this standard.
Response:			
FirstEnergy Corp.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ReliabilityFirst, the Reliability Entity (formerly the RRO) was requested to provide a list of lines below 200 kV deemed as critical transmission lines that must comply with FAC-003-01. ReliabilityFirst responded "there are no lines below 200kV deemed as critical infrastructure".
Response:			
Southern Transm.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	We are not really sure how to answer this question. The Regional Entity has not sent us a list, but they have advised us that we do not have any sub 200 kv critical transmissiion lines that must comply with FAC-003-1.
Response:			

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

3. If you are a transmission owner would you provide your methodology for determining clearance 1 and clearance 2? (As described in FAC-003-1 R1.2.1 and R1.2.2) If so, please attach.

Summary Consideration:

Question #3			
Commenter	Yes	No	Comment
Ameren			No comment.
CECD			No comment.
Dominion			No comment.
Duke Energy			No comment.
IESO			No comment.
IRC SRC			n/a
ISO-NE			No comment.
NYISO			n/a
PSC SC			No comment.
SERC VMS			This question does not apply to the SERC EC Vegetation Management Subcommittee.
Response:			
Baltimore Gas & Electric		<input checked="" type="checkbox"/>	
Central Maine Power		<input checked="" type="checkbox"/>	The clearance 2 was taken directly from IEEE Table 516 – 2003. Clearance 1 is based on “Appendix C – ISO New England Right of way Vegetation Management Standard”.
Response:			
Florida Power & Light		<input checked="" type="checkbox"/>	
National Grid		<input checked="" type="checkbox"/>	Detailed methodology is not attached. In summary, National Grid used Table 5 IEEE Section 516 for determining clearance 2. These data for each voltage class were rounded to the next higher whole number. Clearance 1 was determined by adding the clearance 2 distance, conductor sag distance, and anticipated tree growth over the maintenance cycle.
Response:			
PGN		<input checked="" type="checkbox"/>	Progress Energy has an individual on the Drafting Team and will share the Progress Energy Florida clearance Tables with the team.
Response:			
VELCO		<input checked="" type="checkbox"/>	VELCO has defined Clearance 1 as the maximum allowed vegetation heights (12ft high) at time of maintenance. This maximum height has evolved from experience with regional growth rates and other factors. VELCO's Clearance 2 is determined by the New England

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #3			
Commenter	Yes	No	Comment
			ISO's Operating Procedure 3, which is slightly more stringent than IEEE 516.
Response:			
AEP	<input checked="" type="checkbox"/>		For Clearance 1, AEP has chosen to use the minimum approach distances set forth in ANSI Tree Care Standard Z133.1 (rev. October 2000) for persons other than qualified line-clearance arborists and qualified line-clearance arborist trainees. For Clearance 2, AEP utilizes the Z133.1 minimum approach distances for qualified line clearance arborists and qualified line-clearance arborist trainees.
Response:			
CenterPoint Energy	<input checked="" type="checkbox"/>		<p>CenterPoint Energy has developed a methodology to determine clearance 1 and clearance 2 as described in FAC-003-1 R1.2.1 and R1.2.2. This methodology is included in a document titled "Specification for Transmission Vegetation Management Program" dated February 2007. Section 5.1 of that document covers NERC Clearance 1, and Section 5.2 covers NERC Clearance 2. Text and Tables from both Sections 5.1 and 5.2 are shown below:</p> <p>5.1 NERC CLEARANCE 1</p> <p>5.1.1 The appropriate clearance to conductors at the time of vegetation management work is established as Clearance 1 in accordance with NERC Standard FAC-003-1 Requirement R1.2.1.</p> <p>5.1.2 Clearance 1 is determined by considering transmission line voltage, the effects of ambient temperature on conductor sag under maximum design loading, the effects of wind velocities on conductor sway, and the anticipated average growth rate of the prevalent tree species within the Company's service area over a 5-year period.</p> <p>5.1.2.1 The minimum clearance distance of IEEE Standard 516-2003 Section 4.2.2.3, Minimum Air Insulation Distances without Tools in the Air Gap, is a component of Clearance 1.</p> <p>5.1.3 Table 5.1 contains the horizontal clearance components and nominal values for Clearance 1, and Table 5.2 contains the vertical clearance components and nominal values for Clearance 1.</p> <p>Table 5.1 NERC Clearance 1: Horizontal Clearance, feet</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #3																			
Commenter	Yes	No	Comment																
			<p>(2) Based on NESC C2-2007 Rule 233A(1) (3) May be reduced for site specific tree species or conductor span configuration but not less than Clearance 2.</p> <p>5.2 NERC CLEARANCE 2</p> <p>5.2.1 The minimum radial clearance to prevent flashover between vegetation and conductors is established as Clearance 2 in accordance with NERC Standard FAC-003-1 Requirement R1.2.2.</p> <p>5.2.2 Clearance 2 is determined by considering transmission line voltage, the effects of ambient temperature on conductor sag under maximum design loading, and the effects of wind velocities on conductor sway. Clearance 2 is a radial clearance, so the vertical component and the horizontal component are both calculated, and the largest clearance is selected as the prevailing clearance for Clearance 2.</p> <p>5.2.2.1 The minimum clearance distance of IEEE Standard 516-2003 Section 4.2.2.3, Minimum Air Insulation Distances without Tools in the Air Gap, is a component of Clearance 2.</p> <p>5.2.3 Table 5.3 contains the horizontal clearance component, Table 5.4 contains the vertical clearance component, and Table 5.5 contains the prevailing nominal values for Clearance 2.</p> <p>Table 5.3</p> <p>Horizontal Clearance Component, feet</p> <table border="1"> <thead> <tr> <th>Horizontal Clearance Component, Nominal Voltage p-p</th> <th>69kV</th> <th>138kV</th> <th>345kV</th> </tr> </thead> <tbody> <tr> <td>Electrical Clearance (1)</td> <td>2.46</td> <td>2.95</td> <td>4.40</td> </tr> <tr> <td>Average Mid-span Conductor Sway (2)</td> <td>5.98</td> <td>8.13</td> <td>10.04</td> </tr> <tr> <td>Total</td> <td>8.44</td> <td>11.08</td> <td>14.44</td> </tr> </tbody> </table>	Horizontal Clearance Component, Nominal Voltage p-p	69kV	138kV	345kV	Electrical Clearance (1)	2.46	2.95	4.40	Average Mid-span Conductor Sway (2)	5.98	8.13	10.04	Total	8.44	11.08	14.44
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Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #3			
Commenter	Yes	No	Comment
Entergy Corp.	<input checked="" type="checkbox"/>		<p>Entergy defines four sets of clearances for vegetation approach to transmission lines.</p> <p>The first set of clearances is the Vegetation Pruning Distance. This is the clearance to be achieved at the time of vegetation management work which vegetation management employees and contractors complete as part of this program. This distance varies with each line, but is set to be the EDGE OF ROW in each case. (This clearance is referred to as "Clearance 1" in the NERC Vegetation standard FAC-003-1, Cf B.R1.2.1).</p> <p>The second set of clearances is the Vegetation Growth Alert Distance. This is the approach distance that triggers an alert to the Asset Management vegetation management employees that vegetation maintenance is required. Vegetation spotted on an aerial inspection that encroaches upon this clearance is noted on the inspection for future scheduling of pruning.</p> <p>The third set of clearances is the Minimum Energized Pruning Distance. This is the minimum approach distance vegetation can have to energized transmission lines and still be pruned without an outage on the energized transmission line, in accordance with OSHA safety guidelines. Any vegetation that encroaches on this minimum distance must be pruned, and must be pruned during an outage on the associated transmission line.</p> <p>The fourth set of clearances is the Minimum Vegetation Approach Distance. This is the absolute minimum radial approach distance to prevent flashover between vegetation and overhead ungrounded supply conductors. Under this program, vegetation should never encroach these minimum approach distances. Vegetation must be pruned prior to reaching this distance and must be pruned with an outage on the transmission line. (This distance is referred to as "Clearance 2" in the NERC vegetation standard, FAC-003-1, Cf B.R1.2.2.) These clearance distances are based upon those set forth in the Institute of Electrical and Electronics Engineers (IEEE) Standard 516-2003 (Guide for Maintenance Methods on Energized Power Lines) and as specified in Table 5.</p> <p>Under this program, vegetation can encroach the Vegetation Growth Alert Distance and the Minimum Energized Pruning Distance, but it shall not encroach upon the Minimum Vegetation Approach Distance.</p>
Response:			
FirstEnergy Corp.	<input checked="" type="checkbox"/>		For R1.2.1 (Clearance 1), FirstEnergy used our existing specification requirement "for minimum clearance to be achieved at locations with an easement or other restriction" to

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #3			
Commenter	Yes	No	Comment
			<p>define the minimum acceptable clearance.</p> <p>For R1.2.2 (Clearance 2), FirstEnergy uses the IEEE 516-2003 standard as the minimum as referenced in FAC-003-01. This is the minimum clearance under all operating conditions. FirstEnergy believes this is an appropriate definition.</p>
Response:			
HQT	<input checked="" type="checkbox"/>		<p>HQT clearance methodology is not specifically based on the value specified in Clearance 1 and Clearance 2. HQT TVMP is such organized that vegetation management work minimize costs for line clearing and brush control while preventing outages from vegetation cause. As such, staff qualifications required to work near energized facilities are less than under the absolute minimum as stipulated in IEEE 516-2003, and in most cases, the work is less labour and equipment intensive. However clearances are never less than the absolute minimum stipulated in FAC-003-1 (R1.2.2).</p> <p>The above provides the basic approach used at HQT. If the Standard Drafting Team would like a copy of the HQT approach and methodology, this could be provided.</p>
Response:			
Hydro One Networks	<input checked="" type="checkbox"/>		<p>Hydro One clearance standards are based on the Ontario Health and Safety Act (OHSA) clearances rather than the absolute minimum specified in Clearance 2. OHSA clearances at time of work minimize costs for line clearing and brush control. By maintaining OHSA clearances during normal working conditions, staff qualifications required to work near energized facilities are less than under the absolute minimum as stipulated in IEEE 515-3003, and in most cases, the work is less labour and equipment intensive. As part of work planning, qualified staff determine the amount of vegetation that has to be removed to achieve OHSA clearances at the time of the next scheduled work. As well, provisions are built into the clearances at time of work to account for conductor and tree movement during adverse weather conditions. The objective is to provide OHSA clearances under adverse conditions, but these are not always achieved, however clearances are never less than the absolute minimum stipulated in FAC-003-1.</p> <p>The above provides a description of our planning process. If the Standard Drafting Team would like a copy of the Hydro One standard, this can be provided.</p>
Response:			
Manitoba Hydro	<input checked="" type="checkbox"/>		<p>Clearance 1 was developed based on the limits of approach for non-qualified people (public). At a minimum, we would clear beyond this distance during vegetation control activities. Our cycle times and management approach are adjusted for this distance,</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #3			
Commenter	Yes	No	Comment
			taking into account growth rates. The values will vary depending on voltage class. Clearance 2 is based on internal design standards that take into account our understanding of switching surge values for our system. The values used are more conservative than IEEE 516-2003.
Response:			
MRO	<input checked="" type="checkbox"/>		n/a
Northeast Utilities	<input checked="" type="checkbox"/>		The methodology for determining clearance 2 is based on the requirements of FAC-003-1. The IEEE Section 516 has been considered the base minimum limits for clearances as provided under FAC-003-1 R.1.2.2. Clearances used for R.1.2.1 on the NU Transmission System comply with the requirements of ISO-NE Operating Procedure OP-3, that provides clearance levels required at the time of vegetation trimming or clearing under the various transmission voltages.
Response:			
PGE	<input checked="" type="checkbox"/>		Will be provided to the SARDT in a separate attachment.
Response:			
Southern Transm.	<input checked="" type="checkbox"/>		IEEE 516-2003, Section 4.2.2.3 was adopted as the minimum allowable distance for Clearance 2, with the expectation that work would normally occur prior to Clearance 2 reaching the minimum allowable distance. Clearance 1 was determined by using the Clearance 2 value and adding a growth buffer. Sagging of conductors and their movement in wind was then considered to ensure the growth buffer is adequate.
Response:			
TVA	<input checked="" type="checkbox"/>		We utilize a clearance 2 based on IEEE 516 2003 Table 5 criteria. Our Clearance 1 is a greater amount to allow for growth between clearing and next inspection or clearance activities. We will provide our tables is requested.
Response:			

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

4. Are there any other comments regarding the standard, its possible modifications or the SAR?

Summary Consideration:

Question #4			
Commenter	Yes	No	Comment
CenterPoint Energy		<input checked="" type="checkbox"/>	
Manitoba Hydro		<input checked="" type="checkbox"/>	
PSC SC		<input checked="" type="checkbox"/>	
Southern Transm.		<input checked="" type="checkbox"/>	We appreciate the efforts of the SAR Drafting Team.
AEP	<input checked="" type="checkbox"/>		The SAR directs the SDT to collect and analyze outage data as part of an effort to define clearances for transmission lines on federal and non-federal lands. AEP believes that the analysis of outage data will be meaningless and unproductive. The SAR directive presupposes a cause-and-effect relationship between vegetation-related outages and federal/non-federal land status. On the contrary, AEP believes that vegetation-related data is more indicative of the effectiveness of the utility's VM program, in spite of onerous and inordinately expensive measures required on federal lands.
Response:			
Ameren	<input checked="" type="checkbox"/>		<p>Ameren does not agree that each of 11 items listed in the SAR are necessary to improve reliability. The following comments are offered for each of the 11 items identified in the SAR detail description:</p> <p>1. Standard Applicability:</p> <p>Ameren disagrees with revising the 200 kV threshold for determining facilities subject to this standard. Extending the requirements to lines other than those >200kV will dilute the focus on those lines that impact grid reliability and shift attention to facilities, <200kV. Utilities generally have an incentive to maintain reliability on lines less than 200kV. State commissions and customer expectations for reliable service provide this incentive. While many facilities above 200kV directly support customer load, transmission lines below 200kV primarily support customer load, and interruptions to those facilities reduces load on the grid.</p> <p>The majority of transmission facilities below 200 kV also have significantly different</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>design/construction/operating characteristics and have not been cited as impacting bulk power system reliability. For example, the Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations April 2004 by the U.S.-Canada Power System Outage Task Force and all referenced major blackouts (pages 103-115) in that report, cited only outages which involved vegetation at line voltages above 200kV. Generally applying requirements that are appropriate for >200kV lines to lines less than 200kV will result in significant documentation and reporting of items such as restrictions, mitigation plans, off right-of-way vegetation-related outage investigation/information and other issues, all of which dilutes the focus on lines that directly impact bulk power system reliability.</p> <p>Revising the standard to use general criteria or broad language for defining "Bulk Power System" transmission lines covered by the standard is a "one size fits all" approach. If that approach were taken, the standard would cover a significant number of transmission lines that have no direct impact on bulk power system reliability under standard planning/operating conditions, resulting in a significant cost burden for electric customers without improving "grid" reliability. Ameren believes that the applicability provision of the standard should focus attention of the standard only on the transmission lines below 200kV that directly impact "Bulk Power System" reliability, as the current version requires.</p> <p>Ameren recognizes some validity in the Commission's concern; Ameren recommends that the applicability provision of this standard should be revised only if existing system design, planning or operating reliability criteria and parameters are considered as a basis for defining the applicability of the standard. Ameren recommends each Regional Entity (RE) determine applicability of FAC-003 to those lines within the region that are between 100kV and 200kV, if, and only if, they are identified as operationally significant elements of Interconnection Reliability Operating Limits ("IROLs"). That is, any facility below 200kV that by itself would cause an Interconnected Reliability Limit Violation should the facility be outaged.</p> <p>2. Issue of Clearances (Federal vs Non-Federal Lands):</p> <p>FAC-003-1 presently requires the transmission owner (TO) "identify and document clearances between vegetation and any overhead, ungrounded supply conductors, taking</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>into consideration transmission line voltage, the effects of ambient temperature on conductor sag under maximum design loading, and the effects of wind velocities on conductor sway." The intent of this requirement is to ensure adequate clearances to prevent vegetation related outages. Ameren believes that only the TO has the technical information required to determine the clearances that are necessary at the time of VM work and that any "federal lands exemption" to clearances will result in inadequate clearances for the existing conditions. Consistency in application of the TO's clearance requirements, not exceptions, is the only assurance in providing a uniform and reliable electrical system to meet the nation's current and future energy demands.</p> <p>Any exception for a case by case clearance approach to determine vegetation management activities/clearances on Federal lands will continue to drive inconsistency and/or delays associated with vegetation management decisions being driven by diverse vegetation management practices/beliefs and staff changes at the local level of Federal agencies. Vegetation-related outages have occurred on Federal lands as a result of this case by case approach, and if "Bulk Power Transmission System" lines continue to be addressed on a "case by case" basis on National Forest Service (or any other Federal lands), those lines will potentially be subject to a higher risk for vegetation-related outages, resulting in reduced reliability for the "Bulk Power System".</p> <p>Ameren believes that reliability of the "Bulk Power System" should have the same focus on Federal and private lands and that the EEI MOU with federal agencies is the appropriate vehicle for TO's to identify clearance variances on Federal lands, not exemption language in the standard. The standard should not be used as a mechanism by federal agencies to impose variances to proven vegetation management practices and clearances.</p> <p>3. Defining Right-of-Way:</p> <p>Ameren agrees that it is appropriate to further address the definition of "right-of-way". Corridor widths beyond design clearance requirements have been acquired for a variety of reasons in the past; future use, property line buffers, etc. Vegetation in those areas that would normally fall outside of the area necessary for operation of the facility should not be considered or treated different than vegetation that is outside of a defined easement/permit area that is designed for the reliable operation of an existing single line corridor.</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>4. IEEE Standard for Minimum Clearances:</p> <p>Ameren disagrees with objections to the use of the IEEE 516-2003 clearance as the minimum acceptable distances for "Clearance 2". The IEEE 516-2003 tables are appropriate for defining the minimum acceptable clearances to prevent flashover between conductors and vegetation under all rated electrical operating conditions. FERC staff references ANSI Z-133 which is a safety standard that addresses worker safety as well as the safety of the general public. As such, the purpose of ANSI Z-133 is to address worker safety and is not focused on transmission line reliability, which is the purpose of FAC-003-1. OSHA, NESC and other related safety standards have clearances in excess of IEEE 516-2003. Those clearances are clearly focused on safety issues and will still apply to other aspects of design and operation of electric facilities (such as public and worker safety) but are not appropriate to be referenced in a vegetation management reliability standard.</p> <p>5/6/7. Procedural Items:</p> <p>Ameren agrees that the procedural items related to formatting RRO references and additional compliance elements should be addressed by the standard drafting team.</p> <p>8. Technical Reference Materials:</p> <p>Ameren agrees that a "white paper" that defines the technical basis for the standard is appropriate to avoid the potential for differences in interpretation of the standard's requirements during the various region's audit processes.</p> <p>9. Category 3 Outages:</p> <p>Since the right to control off right-of-way vegetation is generally beyond control of the transmission owner Ameren believes that the reporting of category 3 outages should be removed from the requirements.</p> <p>10. Requirement R4:</p> <p>Ameren believes that requirement R4 should be deleted from the standard, based on the ERO formation and the process for delegation of authority to the regional entities.</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>11. Reporting Exemptions:</p> <p>Ameren believes that the reporting requirement exemptions for natural disasters should include all categories of outages. It would, for example, be difficult, without delaying restoration efforts, to determine if the vegetation from high winds, hurricanes, tornadoes, etc. is from on or off the "right-of-way".</p>
Response:			
Baltimore Gas & Electric	<input checked="" type="checkbox"/>		<p>We completely disagree with the proposal to eliminate reporting or off-right-of-way tree outages. In reality, off-R/W outages can cause many of the same problems that on R/W outages do if they were to occur at the most inappropriate time. Granted that they typically do not occur at times of peak load, but they could. Moreover, many off-R/W tree outages are preventable and should be addressed before they occur.</p>
Response:			
CECD	<input checked="" type="checkbox"/>		<p>CECD supports continuing to use the 200kV threshold for determining applicability of vegetation management criteria. If the standard is deemed to apply to lower voltages these should only be critical lower voltage transmission facilities as determined by the Regional Entities's. CECD would also encourage the drafting team to clarify that the Vegetation Management standards are not applicable to generator interconnection facilities. In the registration process due to the NERC functional definitions, Generation Owners/Operators are required to register as Transmission Owners/Operators because of step-up transformers and other associated interconnection equipment that was not intended to be subject to the Vegetation Management program.</p>
Response:			
Central Maine Power	<input checked="" type="checkbox"/>		<p>The standard FAC-003-1 is intended to create a frame work that will ensure a uniform level of reliability and at the same time must allow transmission owners to meet this objective using efficient and cost effective programs. To this end utilities must have the ability to implement "Clearance 1" distances consistently throughout their service areas.</p> <p>The standard should remain focused only on 200 KV and above lines or lines listed as critical by the Regional Entity.</p> <p>Inspection cycles are sufficient as listed the current version and allow flexibility to meet local variability in growth rates and other conditions. Concerns with inspection cycle length can be addressed in the compliance area.</p>
Response:			

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
Dominion	<input checked="" type="checkbox"/>		In response to Stakeholder item #11, we do not support exempting Category 1 or Category 2 events that occur during natural disasters.
Response:			
Duke Energy	<input checked="" type="checkbox"/>		<p>Regarding the Order 693 items, the applicability provision of the standard should focus attention of the standard only on the transmission lines 200kV and above, and those lines below 200kV that directly impact "Bulk Power System" reliability, as the current version of FAC-003 requires. Each Regional Entity (RE) must determine applicability of FAC-003 to those lines within the region that are less than 200kV. For example, transmission lines below 200kV should be considered within the scope of FAC-003 if they are identified as operationally significant elements of Interconnection Reliability Operating Limits ("IROLs"); i.e. an outage of the facility would cause an Interconnection Reliability Limit Violation.</p> <p>The Standard DT should address the issue of the necessity of maintaining consistent clearances for lines on both federal and non-federal lands. We agree with the use of the IEEE 516-2003 standard for for defining the minimum acceptable clearances to prevent flashover between conductors and vegetation under all rated electrical operating conditions.</p> <p>We believe that the reporting requirement exemptions for natural disasters should include all categories of outages.</p>
Response:			
Entergy Corp.	<input checked="" type="checkbox"/>		<p>The policy to increase sanctions based on a finding of an "intentional economic decision to violate the standard" is ill-concieved:</p> <ol style="list-style-type: none"> 1. Every transmission line outage that has ever occured could have been avoided if more money had been spent on SOMETHING, SOMWHERE. 2. No utility has an unlimited budget, so decisions based on risk, cost and benefit are made every day. 3. After the outage, the localized initiating cause will appear so trivial and inexpensive that it would seem that it could easily have been fixed in advance. 4. Therefore, reviewers could conclude that EVERY outage (a defacto violation of the standard), is the result of an "economic decision to violate the standard." <p>Economic choices are a necessary and natural part of doing business, and do not necessarily imply the existence of malicious motives or wrong-doing.</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			The current policy is going to create unnecessary costs to ratepayers, even to avoid inconsequential outages.
Response:			
FirstEnergy Corp.	<input checked="" type="checkbox"/>		The definition of Right-Of-Way requires modification to clarify it is the width required by engineering to operate the line. This may or may not be the legal Right-of-Way. (See previously submitted comments submitted by FE in Feb 2007 for more details).
Response:			
Florida Power & Light	<input checked="" type="checkbox"/>		<p>For the record FPL re-emphasize its comments from the previous FAC 003-1 SAR.</p> <p>Requirement 3.2 exempts reporting of outages from outside the ROW when natural disasters such as tornados or hurricanes occur. Our experience with numerous hurricanes indicates that all outages during these types of events should be exempt. The focus in these situations is to get the lines back in service and restore customers. There is insufficient manpower to adequately complete the forensics necessary to determine an accurate root cause. It is not uncommon to find vegetation debris in the lines or downed trees on the ROW in this situation. In most cases it is not possible to determine the original location of these trees.</p> <p>In the compliance section of the document a transmission owner becomes non compliant with a single category 1 or 2 outage. This occurs regardless of the circumstances. A non compliant penalty for a single outage in a situation where no customers were affected and the system could not have been compromised is not reasonable. It is also not an indicator of a poorly maintained system. We agree that several Category 1 or 2 interruptions could be an indicator of neglect but one is not. We recommend that the compliance section be reviewed with this in mind.</p>
Response:			
HQT	<input checked="" type="checkbox"/>		<p>Here are some general comments on the SAR:</p> <ol style="list-style-type: none"> In the purpose section of the SAR, item 1, we don't understand the substitution of BPS by «electric transmission system»; it seems like there is a will to make the Standards applicable to more than the BPS. It is our understanding that NERC Standards are aimed at the reliability of the BPS. The term BPS should be retained and instead of modifying the SAR to widen the applicability, the Standard itself should be modified to specifically used the term BPS in item A.3. In the detailed description section, item 1, sub-bullet, it is written that: "...the

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>SDT may consider other criteria in determining applicability of the Standard to sub 200 kV lines...". We think that in item 4.3 (Applicability) of the existing Standard, there is already the possibility of applying the Standard to sub 200 kV lines if determined by RRO. This could be reworded by saying: "...as determined by a methodology to define BPS element"; such as the one used by NPCC.</p> <p>3. We noticed that most Definitions (e.g. RC, IA, PC, RP, TP, TOP, DP, GO, GOP, PSE, MO (not even in the Glossary), LSE) used to described the Reliability Functions in the SAR form, are somewhat different than those used in the Glossary of Terms approved with the Standards deposited at the FERC. For consistency, if the definition needs to be changed, this should be done through the right process, not just casually in the SAR Form.</p> <p>4. Also, although the title in that same section of the SAR form refers to Reliability Functions, these are in fact the Responsible Entity that performs those functions; maybe a correction in the SAR form would be necessary.</p>
Response:			
Hydro One Networks	<input checked="" type="checkbox"/>		<p>We believe from a transmission system perspective, category 3 outages are no different than many of the other types of outages that take place on the system, such as hardware failures, lightning damage and station equipment outages to name a few. It is our understanding that there is no requirement to report these "other" outages, which makes one wonder why the tree related outages that originate off the right of way need to be reported. We are not diminishing the importance of category 3 outages, but from a system cascading perspective, these outages are no more important than other line or station outages, and are fewer in number than the "other" random outages. To initiate system cascading as occurred during August 14, 2003, a number of the random outages would have to coincide to cause a wide spread system event, which in our opinion is a very low probability occurrence. On the other hand, a category 1 outage can occur as a result of any system disturbance should there be deficiencies in clearances to vegetation, as such the importance of category 1 outages is apparent and reporting is appropriate. We support the review concerning the need to report category 3 outages and that the ultimate decision should be based on reporting rules that take into consideration the broader topic of reliability, rather than just vegetation related outages.</p>
Response:			
IESO	<input checked="" type="checkbox"/>		<p>1. The SAR indicates that a list of critical low voltage transmission lines will be provided to FERC. We do not interpret Order 693 to direct NERC to provide this list. Rather, we interpret that FERC asks for defining a criteria that would include low voltage transmission lines that have impact on Bulk Power System reliability. We do not think</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>the list is required.</p> <p>2. The SAR indicates: "The standard DT may consider other criteria in determining applicability of the standard to sub 200kV lines..." Per Order 693, the criteria is quite clearly stated to be the transmission lines of less than 200 kV that could impact Bulk Power System reliability. We don't feel any other criteria would be necessary. Further, to identify the candidates that meet these criteria, we believe they should be determined by the Reliability Coordinator, similar to the PRC-023 standard, since the RC has the primary responsibility and knowledge of interconnection reliability impact.</p> <p>3. We do not understand why the SDT considers removing Category 3 incidents? In our view, Category 3 outages are important information for assessing the effectiveness of vegetation program. Since the industry started reporting vegetation related outages about 3 years ago, data collected so far indicates that of a total of 98 reported vegetation outages, 67 of them were category 3 outages. With this high percentage, reporting of Category 3 events should be a must since the associated trends can provide valuable information to the TOs to aid its evaluation of the vegetation management program.</p> <p>4. The white paper and field tests are a good idea and the SDT should be commended for these, especially the white paper.</p> <p>5. Item 2 under the FERC Order 693 Items in the Detailed Description Section indicates the SDT will also collection outage data. While we understand that FERC has directed the ERO to collect outage data for transmission outages of lines that cross both federal and non-federal lands, we do not feel that it is the SDT's role to perform this task. We feel that this task should be performed by the ERO line functions or a group separate from the SDT such that the task does not add burden to the SDT which may slow down the standard development process or result in the standard development being driven by unanalyzed data and resulting in erroneous requirements.</p> <p>6. With respect to reporting exemptions, our position during development of the previous version of this standard was to limit them. We commend the SDT intention to clarify the outage exemptions under major disasters, but to consider including all category outage exemptions in the standard body is too prescriptive and will add to the already extended list. It can end up with a very long list of outage exemptions, thereby reducing the</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			coverage of the standard substantially and defeating its purpose
Response:			
IRC SRC	<input checked="" type="checkbox"/>		<p>1. The SAR indicates that a list of critical low voltage transmission lines will be provided to FERC. We do not interpret Order 693 to direct NERC to provide this list. Rather, we interpret that FERC asks for defining a criteria that would include low voltage transmission lines that have impact on Bulk Power System reliability. We do not think the list is required.</p> <p>2. The SAR indicates: "The standard DT may consider other criteria in determining applicability of the standard to sub 200kV lines..." Per Order 693, the criteria is quite clearly stated to be the transmission lines of less than 200 kV that could impact Bulk Power System reliability. We don't feel any other criteria would be necessary. Further, to identify the candidates that meet this criteria, we believe they should be determined by the Reliability Coordinator, similar to the PRC-023 standard, since the RC has the primary responsibility and knowledge of interconnection reliability impact.</p> <p>3. We do not understand why the SDT considers removing Category 3 incidents? In our view, Category 3 outages are important information for assessing the effectiveness of vegetation program. Since the industry started reporting vegetation related outages about 3 years ago, data collected so far indicates that of a total of 98 reported vegetation outages, 67 of them were category 3 outages. With this high percentage, reporting of Category 3 events should be a must since the associated trends can provide valuable information to the TOs to aid its evaluation of the vegetation management program.</p> <p>4. The white paper and field tests are a good idea and the SDT should be commended for these, especially the white paper.</p> <p>5. Item 2 under the FERC Order 693 Items in the Detailed Description Section indicates the SDT will also collect outage data. While we understand that FERC has directed the ERO to collect outage data for transmission outages of lines that cross both federal and non-federal lands, we do not feel that it is the SDT's role to perform this task. We feel that this task should be performed by the ERO or a group separate from the SDT such that the task does not add burden to the SDT which may slow down the standard development process or result in the standard development being driven by unanalyzed data and resulting in erroneous requirements.</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>6. With respect to reporting exemptions, our position during development of the previous version of this standard was to limit them. We commend the SDT intention to clarify the outage exemptions under major disasters, but to consider including all category outage exemptions in the standard body is too prescriptive and will add to the already extended list. It can end up with a very long list of outage exemptions, thereby reducing the coverage of the standard substantively and defeating its purpose. If this list was to be developed, they could be attached as guidelines aside of the standard.</p> <p>7. The SAR DT states it will deal with "critical facilities" . The SRC suggest that the DT not use the word "critical" and adopt another term.</p> <p>There is a need to define in a single standard what the term "critical" means. Standards FAC-014 (R5.1.1); IRO-002-1 (R6) and others use the term "critical" as in: critical loads, critical infrastructure, critical assets. The Veg Management Team is asked to avoid making the current situation worse.</p>
Response:			
ISO-NE	<input checked="" type="checkbox"/>		<p>1. The SAR indicates that a list of critical low voltage transmission lines will be provided to FERC. We do not interpret Order 693 to direct NERC to provide this list. Rather, we interpret that FERC asks for defining a criteria that would include low voltage transmission lines that have impact on Bulk Power System reliability. We do not think the list is required.</p> <p>2. The SAR indicates: "The standard DT may consider other criteria in determining applicability of the standard to sub 200 kV lines..." Per Order 693, the criteria is quite clearly stated to be the transmission lines of less than 200 kV that could impact Bulk Power System reliability. We don't feel any other criteria would be necessary. Further, to identify the candidates that meet this criteria, we believe they should be determined by the Reliability Coordinator, similar to the PRC-023 standard, since the RC has the primary responsibility and knowledge of interconnection reliability impact.</p> <p>3. We do not understand why the SDT considers removing Category 3 incidents. In our view, Category 3 outages are important information for assessing the effectiveness of a vegetation program. Since the industry started reporting vegetation-related outages about 3 years ago, data collected so far indicates that of a total of 98 reported vegetation outages, 67 of them were category 3 outages. With this high percentage,</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>reporting of Category 3 events should be a must since the associated trends can provide valuable information to the TOs to aid its evaluation of the vegetation management program.</p> <p>4. The white paper and field tests are a good idea and the SDT should be commended for these, especially the white paper.</p> <p>5. Item 2 under the FERC Order 693 Items in the Detailed Description Section indicates the SDT will also collect outage data. While we understand that FERC has directed the ERO to collect outage data for transmission outages of lines that cross both federal and non-federal lands, we do not feel that it is the SDT's role to perform this task. We feel that this task should be performed by the ERO or a group separate from the SDT such that the task does not add burden to the SDT which may slow down the standard development process or result in the standard development being driven by unanalyzed data and resulting in erroneous requirements.</p> <p>6. With respect to reporting exemptions, our position during development of the previous version of this standard was to limit them. We commend the SDT's intention to clarify the outage exemptions under major disasters, but to consider including all category outage exemptions in the standard body is too prescriptive and will add to the already extended list. It can end up with a very long list of outage exemptions, thereby reducing the coverage of the standard substantively and defeating its purpose. If this list was to be developed, they could be attached as guidelines aside of the standard.</p> <p>7. The SAR DT states it will deal with "critical facilities." The SRC suggest that the DT not use the word "critical" and adopt another term.</p> <p>There is a need to define in a single standard what the term critical means. Standards FAC-014 (R5.1.1); IRO-002-1 (R6) and others use the term "critical" as in: critical loads, critical infrastructure, critical assets. This Team is asked to avoid making the current situation worse.</p>
Response:			
MRO	<input checked="" type="checkbox"/>		If the Regional Reliability Organization is removed as an applicable entity, what is the Regional Entity's responsible? How will a general consensus be formed? How do you get people to participate in this formation?

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>For good planning and application of standards, methodologies need to be consistently applied through guidelines to the drafting teams.</p> <p>Specifically, this standard should provide consistent methodology that provides guidance to the transmission owner.</p> <p>In the next revision of the standard, the MRO requests that more authority be given to the applicable entities with respect to the latitude allowed them in removing trees to the legal limits of their agreement.</p> <p>The MRO commends FERC on empowering NERC and the SAR DT via their Order 693 to revisit the issue of clearances for lines on both Federal and non-Federal Lands. It has come to the attention of the MRO that Federal Forest Employees as well as BLM employees have begun the practice of chemically treating noxious weeds and invasive species on Federal Lands. he MRO would like to have FERC, NERC, and the Standard DT consider meeting with Federal Land Managers to discuss, on a National Level, the issue of herbicide application by utilities on Federal Lands. At the present time there are inconsistencies regionally on this issue that allow application in some regions but not in others.</p>
Response:			
National Grid	<input checked="" type="checkbox"/>		<p>1) National Grid supports amending FAC-003-1 to bring the Standard into compliance with "latest version of the Reliability Standard Development Procedure and the ERO Sanctions Guidelines" as discussed in the SAR Background Information.</p> <p>2) We do not support amendments to the Standard to address all of the issues raised by FERC Order 693. We believe most of the FERC's concerns can be addressed by developing a "white paper" to better explain the Standard and guide its implementation.</p> <p>3) National Grid does not support changing the basic approach to defining clearance from vegetation. The clearance 1 and clearance 2 concept adopts the two management approaches used by most TO's today and required in some state or ISO level standards. National Grid supports using the reference to IEEE 516 as the basis for clearance 2 for two reasons: 1 - there is no other definitive reference for flash over distances to vegetation and 2- decades of experience by TO's acrosss the North America suggest the IEEE 516 distances are more than adequate. The well known tree caused outages in 1996 and 2003 occurred as a result of hard contact with vegetation not flashover at distances close to those in IEEE 516. Furthermore, FERC accepted IEEE 516 as appropriate for use in vegetation management in the October 2006, NOPR.</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			4) National Grid supports amending the definition of a right-of-way though we are not clear on what is meant in the SAR language by "to encompass required clearing areas". National Grid is concerned with the interpretation of the present definition that the right-of-way includes uncleared fee owned or easement land reserved for future construction. In many jurisdictions the TO may not be allowed to remove trees from these areas. A "white paper" could better describe the definition and prevent future compliance issues stemming from an ambiguous definition.
Response:			
Northeast Utilities	<input checked="" type="checkbox"/>		<p>NU does not support the proposed revisions based on the issues raised by FERC Order 693. The Standard has not been in effect long enough to determine if there are any shortcomings with the current requirements. It is our position that the current clearance requirements are satisfactory in that a base minimum distance as provided under IEEE Section 516 is sufficient and there is the need for variations in the second level of clearances base on Regional needs and conditions.</p> <p>The revisions to the definition of "right-of-way" to encompass required clearance areas can e problematic as this could cause significant problems with current systems. There is no detailed description on what the new definition will include or what the actual impact will be to TO's. If the definition will include defined limits or widths of rights-of-way this may affect current facilities that do not meet these distances. Second, there are areas where the company owns or possesses additional area beyond the current maintained right-of-way widths. Is it proposed that the new definition expand the limits of clearing or maintenance to include easemented or fee-owned areas beyond the current maintained limits? Until the new definition can be presented - it is difficult to support any changes at this time and we can only comment on the perceived negative impacts.</p>
Response:			
NYISO	<input checked="" type="checkbox"/>		<p>1. The SAR indicates that a list of critical low voltage transmission lines will be provided to FERC. We do not interpret Order 693 to direct NERC to provide this list. Rather, we interpret that FERC asks for defining a criteria that would include low voltage transmission lines that have impact on Bulk Power System reliability. We do not think the list is required.</p> <p>2. The SAR indicates: "The standard DT may consider other criteria in determining applicability of the standard to sub 200kV lines..." Per Order 693, the criteria is quite clearly stated to be the transmission lines of less than 200 kV that could impact Bulk</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>Power System reliability. We don't feel any other criteria would be necessary. Further, to identify the candidates that meet this criteria, we believe they should be determined by the Reliability Coordinator, similar to the PRC-023 standard, since the RC has the primary responsibility and knowledge of interconnection reliability impact.</p> <p>3. We do not understand why the SDT considers removing Category 3 incidents? In our view, Category 3 outages are important information for assessing the effectiveness of vegetation program. Since the industry started reporting vegetation related outages about 3 years ago, data collected so far indicates that of a total of 98 reported vegetation outages, 67 of them were category 3 outages. With this high percentage, reporting of Category 3 events should be a must since the associated trends can provide valuable information to the TOs to aid its evaluation of the vegetation management program.</p> <p>4. The white paper and field tests are a good idea and the SDT should be commended for these, especially the white paper.</p> <p>5. Item 2 under the FERC Order 693 Items in the Detailed Description Section indicates the SDT will also collect outage data. While we understand that FERC has directed the ERO to collect outage data for transmission outages of lines that cross both federal and non-federal lands, we do not feel that it is the SDT's role to perform this task. We feel that this task should be performed by the ERO or a group separate from the SDT such that the task does not add burden to the SDT which may slow down the standard development process or result in the standard development being driven by unanalyzed data and resulting in erroneous requirements.</p> <p>6. With respect to reporting exemptions, our position during development of the previous version of this standard was to limit them. We commend the SDT intention to clarify the outage exemptions under major disasters, but to consider including all category outage exemptions in the standard body is too prescriptive and will add to the already extended list. It can end up with a very long list of outage exemptions, thereby reducing the coverage of the standard substantively and defeating its purpose. If this list was to be developed, they could be attached as guidelines aside of the standard.</p>
Response:			
PGE	<input checked="" type="checkbox"/>		1) Applicability 4.3 of the standard - PG&E believes the RE is in the best position to determine sub-200kV facilities are designated critical and covered under FAC-003-1. We

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>suggest the ERO direct the RE to provide a list of sub-200kV lines designated critical along with methodology used to make that determination.</p> <p>2) Clearances for lines on federal and non-federal lands - PG&E believes there should be no distinction between requirements on different lands. Vegetation encroachments have the same impact regardless of land ownership.</p> <p>3) Definition of right of way - agreed</p> <p>4) Suitability of IEEE 516-2003 - PG&E believes the use of IEEE 516 as the standard for clearance requirements are adequate to ensure transmission system reliability provided the TO has an appropriate methodology for determining clearance at time of trim and an adequate cycle to prevent vegetation from encroaching within minimum distances. Use of ANSI Z133.3 or FedOSHA 1910, as suggested by FERC, is not appropriate as it is intended for worker safety and not system reliability. TO compliance with R1.2 of the standard should address concerns FERC has with maintaining minimum clearance.</p> <p>5-7) Procedural items - No comment</p> <p>8) Preparation of technical manual (white paper) - agreed</p> <p>9) PG&E believes the current reporting requirements under R3 of the standard should be revised. Distinction is placed on fall-in's "in and out of the ROW" and may not be the best method for determining severity for reporting purposes. PG&E believes a better distinction is (a) green/healthy/no obvious decline and (b) dead or obvious signs of disease, decay or decline. A key component of any TMVP should be hazard tree mitigation regardless if in or out of the ROW. Suggested categories:</p> <p>Category 1 - Any grow-in (as currently stated). Category 2 - Any fall-in of a dead tree or one with obvious signs of disease, decay or decline in or out of the ROW. Category 3 - Either eliminate this category or specify healthy green tree or tree with no obvious signs of decline (if retained, be specific about this being for reporting purposes only)</p> <p>PG&E recognizes that tree failures, even if dead or diseased, are not necessarily an indicator of problematic VM program and the severity level should be reflected as such.</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			Tree density along with other factors make 100% identification not possible. However, multiple occurrences could be an indicator of substandard performance and the current standard does remains silent in respect to hazard trees other than if in or out of the ROW.
Response:			
PGN	<input checked="" type="checkbox"/>		<p>Progress Energy Carolinas (PEC) and Progress Energy Florida (PEF) do not agree that each of 11 items listed in the SAR are necessary to improve reliability. The following comments are offered for each of the 11 items identified in the SAR detail description:</p> <p>1. Standard Applicability:</p> <p>PEC and PEF believe that the current standard wording for determining facilities subject to this standard should not be revised. The standard as it is written provides for lines below 200kV, that are determined to impact the grid, to be subject to the standard.</p> <p>Extending the requirements to a bright line below 200kV, such as 100kV, will dilute the focus on those lines that impact grid reliability, lines >200kV, and shift attention to facilities, those <200kV, that do not necessarily impact grid reliability. Customer reliability is an issue that impacts customer satisfaction and is generally driven by state utility commissions. While some facilities above 200kV directly support customer load, transmission lines below 200kV primarily support customer load, and interruptions to those facilities generally reduce load on the grid.</p> <p>The majority of transmission facilities below 200 kV also have significantly different design/construction/operating characteristics and have not been cited as impacting bulk power system reliability. For example, the Final Report on the August 14, 2003 Blackout in the United states and Canada: Causes and Recommendations April 2004 by the U.S.-Canada Power System Outage Task Force and all referenced major blackouts (pages 103-115) in that report, cited only outages which involved vegetation at line voltages above 200kV. Generally applying requirements that are appropriate for >200kV lines to lines less than 200kV will result in significant documentation and reporting of items such as restrictions, mitigation plans, off right-of-way vegetation-related outage investigation/information and other issues, all of which dilutes the focus on lines that directly impact bulk power system reliability.</p> <p>Revising the standard to use general criteria or broad language for defining "Bulk Power</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>System" transmission lines covered by the standard is a "one size fits all" approach. If that approach were taken, the standard would cover a significant number of transmission lines that have no direct impact on bulk power system reliability under standard planning/operating conditions, resulting in a significant cost burden for electric customers without improving "grid" reliability. PEC and PEF believe that the applicability provision of the standard should instead focus attention of the standard only on the transmission lines below 200kV that directly impact "Bulk Power System" reliability, as the current version requires.</p> <p>While PEC and PEF recognize some validity in the Commission's concern, PEC and PEF recommend that the applicability provision of this standard should be revised only if existing system design, planning or operating reliability criteria and parameters are considered as a basis for defining the applicability of the standard. To that end, PEC and PEF recommend each Regional Entity (RE) determine applicability of FAC-003 to those lines within the region that are between 100kV and 200KV, if, and only if, they are identified as operationally significant elements of Interconnection Reliability Operating Limits ("IROLs"). That is, any facility below 200kV that, by itself, would cause an Interconnected Reliability Limit Violation should the facility be outaged.</p> <p>2. Issue of Clearances (Federal vs Non-Federal Lands):</p> <p>FAC-003-1 presently requires the transmission owner (TO) "identify and document clearances between vegetation and any overhead, ungrounded supply conductors, taking into consideration transmission line voltage, the effects of ambient temperature on conductor sag under maximum design loading, and the effects of wind velocities on conductor sway." The intent of this requirement is to ensure adequate clearances to prevent vegetation related outages. PEC and PEF believe that only the TO has the technical information required to determine the clearances that are necessary at the time of VM work and that any "federal lands exemption" to clearances will result in inadequate clearances for the existing conditions. Consistency in application of the TO's clearance requirements, not exceptions, is the only assurance in providing a uniform and reliable electrical system to meet the nation's current and future energy demands.</p> <p>Any exception for a case by case clearance approach to determine vegetation management activities/clearances on Federal lands will continue to drive inconsistency and/or delays associated with TO vegetation management decisions being driven by</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>diverse vegetation management practices/beliefs and staff changes at the local level of Federal agencies. Vegetation-related outages have occurred on Federal lands as a result of this case by case approach, and if "Bulk Power Transmission System" lines continue to be addressed on a "case by case" basis on National Forest Service (or any other Federal lands), those lines will potentially be subject to a higher risk for vegetation-related outages, resulting in reduced reliability for the "Bulk Power System".</p> <p>PEC and PEF believe that reliability of the "Bulk Power System" should have the same focus on Federal and private lands and that the EEI MOU with federal agencies is an appropriate avenue for TO's to identify clearances on Federal lands, not an exemption in the language of a reliability standard.</p> <p>3. Defining Right-of-Way:</p> <p>PEC and PEF agree that it is appropriate to further address the definition of "right-of-way". Corridor widths that exceed the design clearance requirements have been acquired for a variety of reasons in the past; future use, property line buffers, etc. Vegetation in those areas that would normally be outside of the corridor width necessary for reliable operation of the facility, but within an expanded easement area, should not be considered, or treated, different than vegetation that is outside of a defined easement/permit right-of-way corridor that was designed and acquired specifically for the reliable operation of a single line.</p> <p>4. IEEE Standard for Minimum Clearances:</p> <p>PEC and PEF believe that the IEEE 516-2003 tables are appropriate for defining the minimum acceptable clearances to prevent flashover between conductors and vegetation under all rated electrical operating conditions. Closer minimum clearances such as the minimum length of a support insulator could have been adopted as a "lowest common denominator" clearance. However the clearance in IEEE 516-2003 was adopted to ensure an additional margin of reliability. FERC staff has made references to the use of ANSI Z-133 which is a safety standard that addresses worker safety as well as the safety of the general public. The purpose of ANSI Z-133 is to address worker safety and is not focused on transmission line reliability, which is the purpose of FAC-003-1. OSHA, NESC and other related safety standards have clearances in excess of IEEE 516-2003. Those clearances are clearly focused on safety issues and will still apply to other aspects of</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>design and operation of electric facilities (such as public and worker safety) but are not appropriate to be referenced in a vegetation management reliability standard as a flashover clearance.</p> <p>5/6/7. Procedural Items:</p> <p>PEC and PEF agree that the procedural items related to formatting RRO references and revising the compliance elements to meet the new standard format should be addressed by the standard drafting team.</p> <p>8. Technical Reference Materials:</p> <p>PEC and PEF agree that a “white paper” that defines the technical basis for the standard is appropriate. This type of document, if crafted by the drafting team, should help to avoid the potential for differences in interpretation of the standard’s requirements by the various regions during the audit process.</p> <p>9. Category 3 Outages:</p> <p>Since control off right-of-way vegetation is generally beyond control of the TO and since “fall-in” outages are random events that do not threaten grid reliability, PEC and PEF believe that the reporting of category 3 outages should be removed from the requirements.</p> <p>10. Requirement R4:</p> <p>PEC and PEF believe that requirement R4 should be deleted from the standard, since the ERO formation provides for delegation of authority to the regional entities.</p> <p>11. Reporting Exemptions:</p> <p>PEC and PEF believe that the reporting requirement exemptions for natural disasters should include all categories of outages. For example, with outages caused by high winds, hurricanes, tornadoes, etc., it would be difficult (or practically impossible in some cases) to determine if the vegetation came from on, or off, the “right-of-way”. In addition, the effort and time necessary to make that determination would result in</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			delaying outage restoration efforts.
Response:			
SERC VMS	<input checked="" type="checkbox"/>		<p>The SERC VMS does not agree that each of 11 items listed in the SAR are necessary to improve reliability. The following comments are offered for each of the 11 items identified in the SAR detail description:</p> <p>1. Standard Applicability:</p> <p>The SERC VMS disagrees with revising the 200 kV threshold for determining facilities subject to this standard. Extending the requirements to lines other than those >200kV will dilute the focus on those lines that impact grid reliability and shift attention to facilities, those <200kV. The reliability of lower voltage lines involves local customers' reliability and satisfaction hence that reliability should be addressed by local and state utility commissions. The majority of the >200kV lines are solely elements of the grid and interruptions to those lines negatively impact grid reliability. The majority of the <200kV lines primarily support customer load, and interruptions to those facilities actually reduces load on the grid.</p> <p>The majority of transmission facilities below 200 kV also have significantly different design/construction/operating characteristics and have not been cited as impacting bulk power system reliability. For example, the Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations April 2004 by the U.S.-Canada Power System Outage Task Force and all referenced major blackouts (pages 103-115) in that report, cited only outages which involved vegetation at line voltages above 200kV. Generally applying requirements that are appropriate for >200kV lines to lines less than 200kV will result in significant documentation and reporting of items such as restrictions, mitigation plans, off right-of-way vegetation-related outage investigation/information and other issues, all of which dilutes the focus on lines that directly impact bulk power system reliability.</p> <p>Revising the standard to use general criteria or broad language for defining "Bulk Power System" transmission lines covered by the standard is a "one size fits all" approach. If that approach were taken, the standard would cover a significant number of transmission lines that have no direct impact on bulk power system reliability under standard planning/operating conditions, resulting in a significant cost burden for electric customers without improving "grid" reliability. The SERC VMS believes that the</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>applicability provision of the standard should instead focus attention of the standard only on the transmission lines below 200kV that directly impact "Bulk Power System" reliability, as the current version requires.</p> <p>In sum, while the SERC VMS recognizes some validity in the Commission's concern, the SERC VMS recommends that the applicability provision of this standard should be revised only if existing system design, planning or operating reliability criteria and parameters are considered as a basis for defining the applicability of the standard. To that end, the SERC VMS recommends each Regional Entity (RE) determine applicability of FAC-003 to those lines within the region that are between 100kV and 200KV, if, and only if, they are identified as operationally significant elements of Interconnection Reliability Operating Limits ("IROLs"). That is, any facility below 200kV that by itself would cause an Interconnected Reliability Limit Violation should the facility be outaged.</p> <p>2. Issue of Clearances (Federal vs Non-Federal Lands):</p> <p>FAC-003-1 presently requires the transmission owner (TO) "identify and document clearances between vegetation and any overhead, ungrounded supply conductors, taking into consideration transmission line voltage, the effects of ambient temperature on conductor sag under maximum design loading, and the effects of wind velocities on conductor sway." The intent of this requirement is to ensure adequate clearances to prevent vegetation related outages. The SERC VMS believes that only the TO has the technical information required to determine the clearances that are necessary at the time of VM work and that any "federal lands exemption" to clearances will result in inadequate clearances for the existing conditions. Consistency in application of the TO's clearance requirements, not exceptions, is the only assurance in providing a uniform and reliable electrical system to meet the nation's current and future energy demands. Any exception for a case by case clearance approach to determine vegetation management activities/clearances on Federal lands will continue to drive inconsistency and/or delays associated with TO vegetation management decisions being driven by diverse vegetation management practices/beliefs and staff changes at the local level of Federal agencies. Vegetation-related outages have occurred on Federal lands as a result of this case by case approach, and if "Bulk Power Transmission System" lines continue to be addressed on a "case by case" basis on National Forest Service (or any other Federal lands), those lines will potentially be subject to a higher risk for vegetation-related</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>outages, resulting in reduced reliability for the "Bulk Power System".</p> <p>The SERC VMS believes that reliability of the "Bulk Power System" should have the same focus on Federal and private lands and that the EEI MOU with federal agencies is the appropriate vehicle for TO's to identify clearance variances on Federal lands, not exemption language in the standard.</p> <p>3. Defining Right-of-Way:</p> <p>The SERC VMS agrees that it is appropriate to further address the definition of "right-of-way". Corridor widths beyond design clearance requirements have been acquired for a variety of reasons in the past; future use, property line buffers, etc. Vegetation in those areas that would normally fall outside of the area necessary for operation of the facility should not be considered or treated different than vegetation that is outside of a defined easement/permit area that is designed for the reliable operation of an existing single line corridor.</p> <p>4. IEEE Standard for Minimum Clearances:</p> <p>The SERC VMS disagrees with objections to the use of the IEEE 516-2003 clearance as the minimum acceptable distances for "Clearance 2". The IEEE 516-2003 tables are appropriate for defining the minimum acceptable clearances to prevent flashover between conductors and vegetation under all rated electrical operating conditions. Closer minimum clearances such as the minimum length of a support insulator could have been adopted as a "lowest common denominator" clearance. However the clearance in IEEE 516-2003 was adopted to ensure an additional margin of reliability. FERC staff references ANSI Z-133 which is a safety standard that addresses worker safety as well as the safety of the general public. As such, the purpose of ANSI Z-133 is to address worker safety and is not focused on transmission line reliability, which is the purpose of FAC-003-1. OSHA, NESC and other related safety standards have clearances in excess of IEEE 516-2003. Those clearances are clearly focused on safety issues and will still apply to other aspects of design and operation of electric facilities (such as public and worker safety) but are not appropriate to be referenced in a vegetation management reliability standard.</p> <p>5/6/7. Procedural Items:</p>

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
			<p>The SERC VMS agrees that the procedural items related to formatting RRO references and additional compliance elements should be addressed by the standard drafting team.</p> <p>8. Technical Reference Materials:</p> <p>The SERC VMS agrees that a "white paper" that defines the technical basis for the standard is appropriate to avoid the potential for differences in interpretation of the standard's requirements during the various region's audit processes.</p> <p>9. Category 3 Outages:</p> <p>Since the right to control off right-of-way vegetation is generally beyond control of the TO, the SERC VMS believes that the reporting of category 3 outages should be removed from the requirements.</p> <p>10. Requirement R4:</p> <p>The SERC VMS believes that requirement R4 should be deleted from the standard, based on the ERO formation and the process for delegation of authority to the regional entities.</p> <p>11. Reporting Exemptions:</p> <p>The SERC VMS believes that the reporting requirement exemptions for natural disasters should include all categories of outages. It would, for example, be difficult, without delaying restoration efforts, to determine if the vegetation from high winds, hurricanes, tornadoes, etc. is from on or off the "right-of-way".</p>
Response:			
TVA	<input checked="" type="checkbox"/>		<p>We feel that the reporting of Category 3 outages should be eliminated. We agree with the need for a "white paper" to expand on definitions and intent. We feel that a defined maintainable width of right of way is more appropriate than the actual easement widths because easement widths are not purchased or operated exclusively with or for vegetation maintenance activities. We will be pleased to share greater details on this concern if requested.</p>
Response:			

Consideration of Comments for 2nd Draft of SAR for Vegetation Management Standard

Question #4			
Commenter	Yes	No	Comment
VELCO		<input checked="" type="checkbox"/>	

Standard Authorization Request Form

Revisions to FAC-003-1 Transmission Vegetation Management Program Project 2007-07
Request Date April XX , 2007

Deleted: Title of Proposed Standard

Deleted: January 9

SAR Requestor Information	SAR Type (Check a box for each one that applies.)
Name Richard Dearman	<input type="checkbox"/> New Standard
Primary Contact Richard Dearman	<input checked="" type="checkbox"/> Revision to existing Standard
Telephone (256) 519-2067 Fax	<input type="checkbox"/> Withdrawal of existing Standard
E-mail redearman@tva.gov	<input type="checkbox"/> Urgent Action

Deleted: Schneider (To be replaced by SAR DT Chair when the SAR DT is appointed)

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Purpose/Industry Need (Describe the purpose of the standard — what the standard will achieve in support of reliability.)

The purpose of revising this standard is to:

1. Provide an adequate level of reliability for the North American [electric transmission system](#), the standard is complete and the requirements are set at an appropriate level to ensure reliability.
2. Incorporate other general improvements described in the attached Standard Review Guidelines [to bring it into conformance with the latest version of the Reliability Standard Development Procedure and the ERO Sanctions Guidelines](#).
3. Consider comments received from ERO regulatory authorities and stakeholders, as noted in the attached review sheets.
4. Satisfy the standards procedure requirement for five-year review of the standards.

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Deleted: <#>Ensure it is enforceable as a mandatory reliability standard with financial penalties - the applicability to bulk power system owners, operators, and users, and as appropriate particular classes of facilities, is clearly defined; the purpose, requirements, and measures are results-focused and unambiguous; the consequences of violating the requirements are clear.

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Brief Description

This is a new standard that was approved in 2006. It has some 'fill-in-the-blank' components to eliminate. In addition, the following comments submitted by FERC and stakeholders need to be addressed in the refinement of the standard:

FERC Order 693 items

1. To address the issue regarding applicability:
 - The standard DT shall work with the reliability entities and the ERO to collect and make available to the FERC, a list of critical lower voltage transmission lines. (Refer to Applicability 4.3 section of the standard.)
 - The standard DT may consider other criteria in determining applicability of the standard to sub 200kV lines.
2. To address the issue of clearances for lines on both federal and non-federal lands:
 - The standard drafting team shall collect and analyze outage data then consider defining clearances needed to avoid sustained vegetation-related outages that would apply to transmission lines crossing both federal and non-federal land.
3. To consider revising the definition of right of way to encompass required clearance areas.
4. To review the suitability of IEEE 516-2003 standard.

Procedural items

5. Re-format standard to bring it into conformance with the latest version of the Reliability Standard Development Procedure and the ERO Sanctions Guidelines.
6. Remove references to RRO in the standard and substitute a responsible entity.
7. Add newly developed compliance elements such as time horizons, violation risk factors, violation severity levels, etc.

Stakeholder items

8. The Standard DT shall prepare technical reference material such as a "white paper" to aid in understanding the technical basis for the standard.
9. The Standard DT shall review reporting criteria for Category 3 outages in the proposed technical reference material and may remove the reporting requirement of Category 3 outages in R.3 and R.4.
10. The Standard DT shall consider deleting requirement R.4.
11. The Standard DT will review the reporting exemptions to include all category outages under major disasters in Requirement R3.2.

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Deleted: <#>Develop a minimum vegetation inspection cycle that allows variation for physical differences, as discussed above; and¶
 <#>Remove the applicability to transmission lines operated at 200 kV and above so that the Reliability Standard applies to Bulk-Power System transmission lines that have an impact of reliability as determined by the ERO.¶
FERC staff report¶
 <#>Objections to use of IEEE standard¶
Stakeholder Comments ¶
 <#>RA vs. RRO ¶
 <#>Too weak on compliance ¶
 <#>Format inconsistencies¶
 The development may include other improvements to the standards deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing high quality, enforceable and technically sufficient bulk power system reliability standards.

Standards Authorization Request Form

Reliability Functions

The Standard will Apply to the Following Functions *(Check box for each one that applies.)*

<input type="checkbox"/>	Reliability Coordinator	Ensures the reliability of the bulk transmission system within its Reliability Coordinator area. This is the highest reliability authority.
<input type="checkbox"/>	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within its metered boundary and supports system frequency in real time.
<input type="checkbox"/>	Interchange Authority	Authorizes valid and balanced Interchange Schedules.
<input type="checkbox"/>	Planning <u>Coordinator</u>	Plans the Bulk Electric System.
<input type="checkbox"/>	Resource Planner	Develops a long-term (>one year) plan for the resource adequacy of specific loads within a Planning Authority area.
<input type="checkbox"/>	Transmission Planner	Develops a long-term (>one year) plan for the reliability of transmission systems within its portion of the Planning Authority area.
<input type="checkbox"/>	Transmission Service Provider	Provides transmission services to qualified market participants under applicable transmission service agreements
<input checked="" type="checkbox"/>	Transmission Owner	Owns transmission facilities.
<input type="checkbox"/>	Transmission Operator	Operates and maintains the transmission facilities, and executes switching orders.
<input type="checkbox"/>	Distribution Provider	Provides and operates the "wires" between the transmission system and the customer.
<input type="checkbox"/>	Generator Owner	Owns and maintains generation unit(s).
<input type="checkbox"/>	Generator Operator	Operates generation unit(s) and performs the functions of supplying energy and Interconnected Operations Services.
<input type="checkbox"/>	Purchasing-Selling Entity	The function of purchasing or selling energy, capacity, and all necessary Interconnected Operations Services as required.
<input type="checkbox"/>	Market Operator	Integrates energy, capacity, balancing, and transmission resources to achieve an economic, reliability-constrained dispatch.
<input type="checkbox"/>	Load-Serving Entity	Secures energy and transmission (and related generation services) to serve the end user.

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Reliability and Market Interface Principles

Applicable Reliability Principles <i>(Check box for all that apply.)</i>	
<input type="checkbox"/>	1. Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input type="checkbox"/>	2. The frequency and voltage of interconnected bulk electric systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk electric systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk electric systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk electric systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk electric systems shall be assessed, monitored and maintained on a wide area basis.
Does the proposed Standard comply with all the following Market Interface Principles? <i>(Select "yes" or "no" from the drop-down box.)</i>	
1.	The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy. Yes
2.	An Organization Standard shall not give any market participant an unfair competitive advantage. Yes
3.	An Organization Standard shall neither mandate nor prohibit any specific market structure. Yes
4.	An Organization Standard shall not preclude market solutions to achieving compliance with that Standard. Yes
5.	An Organization Standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards. Yes

Related Standards

Standard No.	Explanation

Related SARs

SAR ID	Explanation

Regional Differences

Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
SERC	
RFC	
SPP	
WECC	

Standard Review Guidelines

Applicability

Does this reliability standard clearly identify the functional classes of entities responsible for complying with the reliability standard, with any specific additions or exceptions noted? Where multiple functional classes are identified is there a clear line of responsibility for each requirement identifying the functional class and entity to be held accountable for compliance? Does the requirement allow overlapping responsibilities between Registered Entities possibly creating confusion for who is ultimately accountable for compliance?

Does this reliability standard identify the geographic applicability of the standard, such as the entire North American bulk power system, an interconnection, or within a regional entity area? If no geographic limitations are identified, the default is that the standard applies throughout North America.

Does this reliability standard identify any limitations on the applicability of the standard based on electric facility characteristics, such as generators with a nameplate rating of 20 MW or greater, or transmission facilities energized at 200 kV or greater or some other criteria? If no functional entity limitations are identified, the default is that the standard applies to all identified functional entities.

Purpose

Does this reliability standard have a clear statement of purpose that describes how the standard contributes to the reliability of the bulk power system? Each purpose statement should include a value statement.

Performance Requirements

Does this reliability standard state one or more performance requirements, which if achieved by the applicable entities, will provide for a reliable bulk power system, consistent with good utility practices and the public interest?

Does each requirement identify who shall do what under what conditions and to what outcome?

Measurability

Is each performance requirement stated so as to be objectively measurable by a third party with knowledge or expertise in the area addressed by that requirement?

Does each performance requirement have one or more associated measures used to objectively evaluate compliance with the requirement?

If performance results can be practically measured quantitatively, are metrics provided within the requirement to indicate satisfactory performance?

Technical Basis in Engineering and Operations

Is this reliability standard based upon sound engineering and operating judgment, analysis, or experience, as determined by expert practitioners in that particular field?

Completeness

Is this reliability standard complete and self-contained? Does the standard depend on external information to determine the required level of performance?

Consequences for Noncompliance

Standard Review Guidelines

In combination with guidelines for penalties and sanctions, as well as other ERO and regional entity compliance documents, are the consequences of violating a standard clearly known to the responsible entities?

Clear Language

Is the reliability standard stated using clear and unambiguous language? Can responsible entities, using reasonable judgment and in keeping with good utility practices, arrive at a consistent interpretation of the required performance?

Practicality

Does this reliability standard establish requirements that can be practically implemented by the assigned responsible entities within the specified effective date and thereafter?

Capability Requirements versus Performance Requirements

In general, requirements for entities to have 'capabilities' (this would include facilities for communication, agreements with other entities, etc.) should be located in the standards for certification. The certification requirements should indicate that entities have a responsibility to 'maintain' their capabilities.

Consistent Terminology

To the extent possible, does this reliability standard use a set of standard terms and definitions that are approved through the NERC reliability standards development process?

If the standard uses terms that are included in the NERC Glossary of Terms Used in Reliability Standards, then the term must be capitalized when it is used in the standard. New terms should not be added unless they have a 'unique' definition when used in a NERC reliability standard. Common terms that could be found in a college dictionary should not be defined and added to the NERC Glossary.

Are the verbs on the 'verb list' from the DT Guidelines? If not – do new verbs need to be added to the guidelines or could you use one of the verbs from the verb list?

Violation Risk Factors (Risk Factor)

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. A requirement that is administrative in nature;

or a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

Mitigation Time Horizon

The drafting team should also indicate the time horizon available for mitigating a violation to the requirement using the following definitions:

- **Long-term Planning** — a planning horizon of one year or longer.
- **Operations Planning** — operating and resource plans from day-ahead up to and including seasonal.
- **Same-day Operations** — routine actions required within the timeframe of a day, but not real-time.
- **Real-time Operations** — actions required within one hour or less to preserve the reliability of the bulk electric system.
- **Operations Assessment** — follow-up evaluations and reporting of real time operations.

Violation Severity Levels

The drafting team should indicate a set of violation severity levels that can be applied for the requirements within a standard. ('Violation severity levels' replace existing 'levels of non-compliance.')

The violation severity levels may be applied for each requirement or combined to cover multiple requirements, as long as it is clear which requirements are included.

The violation severity levels should be based on the following definitions:

- **Lower: mostly compliant with minor exceptions** — The responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more minor details. Equivalent score: 95% to 99% compliant.
- **Moderate: mostly compliant with significant exceptions** — The responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more significant elements. Equivalent score: 85% to 94% compliant.

Standard Review Guidelines

- **High: marginal performance or results** — The responsible entity has only partially achieved the reliability objective of the requirement and is missing one or more significant elements. Equivalent score: 70% to 84% compliant.
- **Severe: poor performance or results** — The responsible entity has failed to meet the reliability objective of the requirement. Equivalent score: less than 70% compliant.

Compliance Monitor

Replace, 'Regional Reliability Organization' with 'Electric Reliability Organization'

Fill-in-the-blank Requirements

Do not include any 'fill-in-the-blank' requirements. These are requirements that assign one entity responsibility for developing some performance measures without requiring that the performance measures be included in the body of a standard – then require another entity to comply with those requirements.

Every reliability objective can be met, at least at a threshold level, by a North American standard. If we need regions to develop regional standards, such as in under-frequency load shedding, we can always write a uniform North American standard for the applicable functional entities as a means of encouraging development of the regional standards.

Requirements for Regional Reliability Organization

Do not write any requirements for the Regional Reliability Organization. Any requirements currently assigned to the RRO should be re-assigned to the applicable functional entity.

Effective Dates

Must be 1st day of 1st quarter after entities are expected to be compliant – must include time to file with regulatory authorities and provide notice to responsible entities of the obligation to comply. If the standard is to be actively monitored, time for the Compliance Monitoring and Enforcement Program to develop reporting instructions and modify the Compliance Data Management System(s) both at NERC and Regional Entities must be provided in the implementation plan.

Associated Documents

If there are standards that are referenced within a standard, list the full name and number of the standard under the section called, 'Associated Documents'.

Functional Model Version 3

Review the requirements against the latest descriptions of the responsibilities and tasks assigned to functional entities as provided in pages 13 through 53 of the draft Functional Model Version 3.

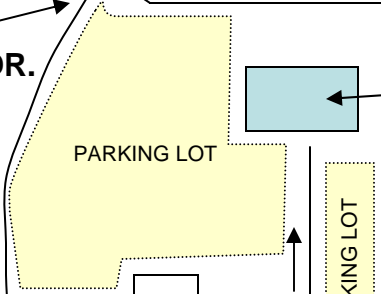


**PROGRESS ENERGY BUILDING
5225 TECH DATA DR.**

BAY VISTA DR.
LAGO VISTA DR.

162ND AVE N.

**PROGRESS ENERGY
BAYSIDE CALL CENTER**



←
PARK IN EITHER OF
THESE TWO CLOSEST
LOTS

TECH DATA DR.

BAY VISTA DR.

←
ALTERNATE ROUTE IF COMING FROM THE EAST

FROM EAST BAY DR. TURN RIGHT
ON BOLESTA RD. GO ~¼ MILE THEN TURN
LEFT INTO PARKING LOT. TURN RIGHT AT STOP
SIGN. THE PROGRESS ENERGY BUILDING IS
STRAIGHT AHEAD

DRIVE THRU THIS
PARKING LOT

TO
US 19 N

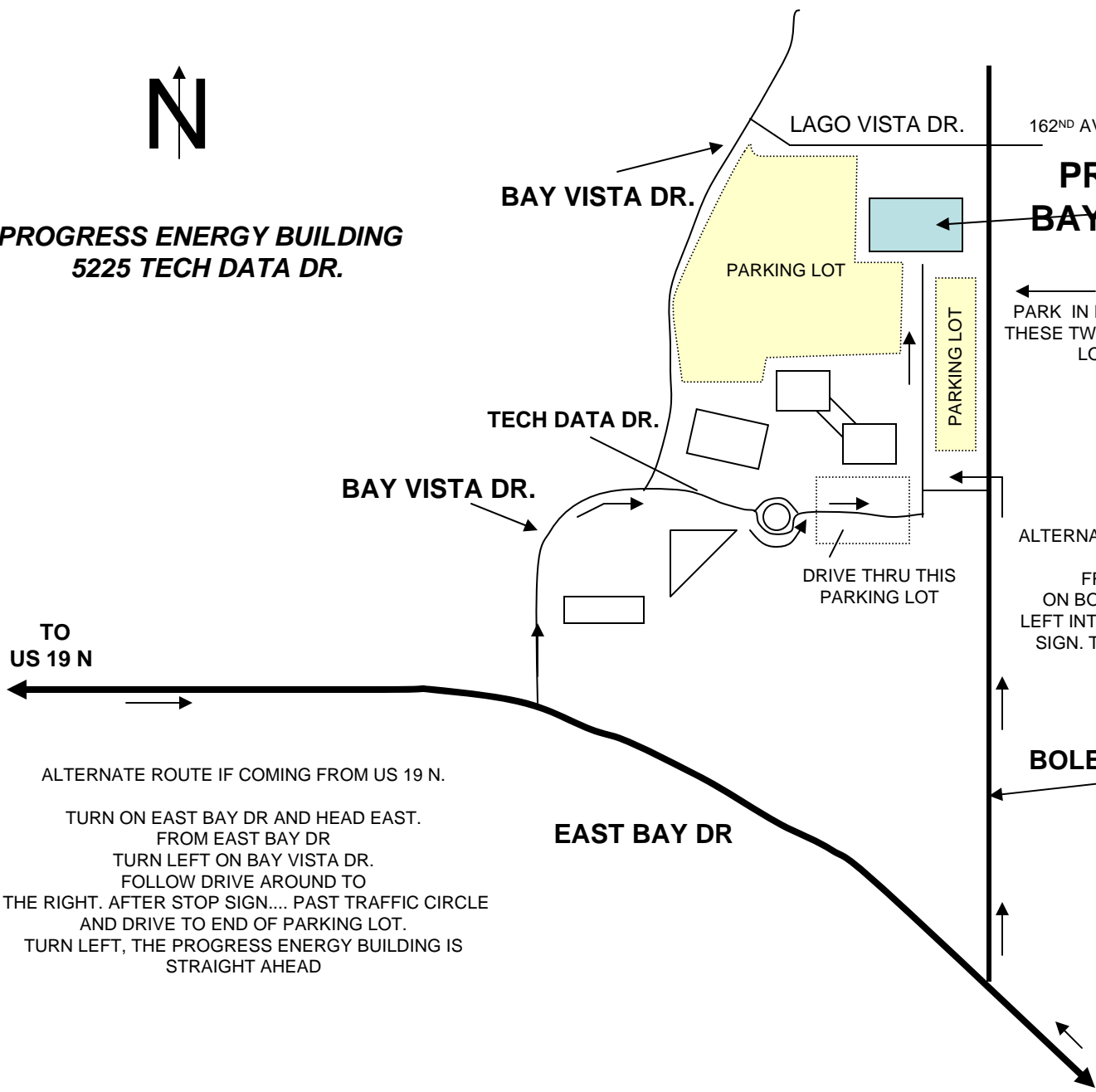
BOLESTA RD.

ALTERNATE ROUTE IF COMING FROM US 19 N.

TURN ON EAST BAY DR AND HEAD EAST.
FROM EAST BAY DR
TURN LEFT ON BAY VISTA DR.
FOLLOW DRIVE AROUND TO
THE RIGHT. AFTER STOP SIGN... PAST TRAFFIC CIRCLE
AND DRIVE TO END OF PARKING LOT.
TURN LEFT, THE PROGRESS ENERGY BUILDING IS
STRAIGHT AHEAD

EAST BAY DR

TO
BAYSIDE BRIDGE / 49TH ST N.



Hotels

<p>In Town Suites Roosevelt Blvd 2833 Roosevelt Blvd, Clearwater, FL 727-538-8892 0.77 miles</p>	<p>Ramada Inn 16405 US Highway 19 N, Clearwater, FL 727-535-0505 1.43 miles</p>
<p>Holiday Inn Express Clearwater 13625 Icot Blvd, Clearwater, FL 727-536-7275 1.56 miles</p>	<p>Residence Inn-St Petersburg 5050 Ulmerton Rd, Clearwater, FL 727-573-4444 1.69 miles</p>
<p>Candlewood Suites 13231 49th St N, Clearwater, FL 727-573-3344 1.81 miles</p>	<p>Towneplace Suites By Marriott 13200 49th St N, Clearwater, FL 727-299-9229 1.82 miles</p>
<p>Hampton Inn 3655 Hospitality Ln, Clearwater, FL 727-577-9200 2.16 miles</p>	<p>Holiday Inn Select Clearwater 3535 Ulmerton Rd, Clearwater, FL 727-577-9100 2.27 miles</p>
<p>Fairfield Inn 3211 Executive Dr, Clearwater, FL 727-572-4400 2.42 miles</p>	<p>La Quinta Inn 3301 Ulmerton Rd, Clearwater, FL 727-572-7222 2.43 miles</p>
<p>Courtyard-St Petersburg Clrwtr 3131 Executive Dr, Clearwater, FL 727-572-8484 2.43 miles</p>	<p>Extended Stay America 3089 Executive Dr, Clearwater, FL 727-561-9032 2.46 miles</p>
<p>Best Western Inn 11333 US Highway 19 N, Clearwater, FL 727-572-4929 2.98 miles</p>	<p>Quality Inn 20162 US Highway 19 N, Clearwater, FL 727-799-6133 3.01 miles</p>
<p>Homestead Guest Studios 2311 Ulmerton Rd, Clearwater, FL 727-572-4800 3.06 miles</p>	<p>Homewood Suites-Clearwater 2233 Ulmerton Rd, Clearwater, FL 727-573-1500 3.14 miles</p>
<p>Hilton Hotel Carillon Park 950 Lake Carillon Dr, St Petersburg, FL 727-540-0050 3.15 miles</p>	<p>Radisson Hotel & Convention 12600 Roosevelt Blvd N, St Petersburg, FL 727-572-7800 3.20 miles</p>

Hotels

Radisson Clearwater Central 20967 US Highway 19 N, Clearwater, FL 727-799-1181 3.36 miles	Holiday Inn 20967 US Highway 19 N, Clearwater, FL 727-725-2160 3.36 miles
Hampton Inn 21030 US Highway 19 N, Clearwater, FL 727-797-8173 3.50 miles	Ramada Inn 2061 Gulf To Bay Blvd, Clearwater, FL 727-446-8007 4.05 miles

Clearwater Bayside Customer Service Center

Tampa International Airport to Clearwater Bayside CSC	Distance
1. Start out going Northeast on AIRPORT ENTRANCE toward PARKING	.3 mile
2. Stay straight to go onto TERMINAL .	.2 mile
3. Stay straight to go onto RED TERMINAL	.5 mile
4. RED TERMINAL becomes AIRPORT EXIT .	1.6 miles
5. Take the SR-60 ramp toward I-275 / DOWNTOWN .	.4 mile
6. Merge onto N MEMORIAL HWY / FL-60 E .	.2 mile
7. Merge onto I-275 S toward ST PETERSBURG .	8.1 miles
8. Merge onto ULMERTON RD / FL-688 W via exit 31B toward LARGO .	2.8 miles
9. Turn SLIGHT RIGHT onto ROOSEVELT BLVD / FL-686 W .	2.0 miles
10. Turn RIGHT Into BAY VISTA OFFICE PARK (BAY VISTA DR.)	.1 mile
11. Stay straight to go onto TECH DATA DR. (You will drive through a parking lot).	.1 mile
12. At the end of the parking lot turn LEFT . Our building will be in front of you - 5225 TECH DATA DR.	
Total estimated Time: 24 minutes	Total 16.8 miles

[Reverse These Directions](#)

[Driving Directions - Clearwater](#)

FERC Criteria for Determining Whether to Approve a Reliability Standard Applied to the Transmission Vegetation Management Standard FAC-003-1

The Transmission Vegetation Management Standard Drafting Team has prepared this report to identify how the proposed standard meets the factors that FERC identified will be used to determine whether to approve a reliability standard.

1. Must be designed to achieve a specified reliability goal (P 321 and 324)

321. The proposed Reliability Standard must address a reliability concern that falls within the requirements of section 215 of the FPA. That is, it must provide for the reliable operation of Bulk-Power System facilities. It may not extend beyond reliable operation of such facilities or apply to other facilities. Such facilities include all those necessary for operating an interconnected electric energy transmission network, or any portion of that network, including control systems. The proposed Reliability Standard may apply to any design of planned additions or modifications of such facilities that is necessary to provide for reliable operation. It may also apply to Cybersecurity protection.

324. The proposed Reliability Standard must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve this goal.

Although any person may propose a topic for a Reliability Standard to the ERO, in the ERO's process, the specific proposed Reliability Standard should be developed initially by persons within the electric power industry and community with a high level of technical expertise and be based on sound technical and engineering criteria. It should be based on actual data and lessons learned from past operating incidents, where appropriate. The process for ERO approval of a proposed Reliability Standard should be fair and open to all interested persons.

Response:

2. Must contain a technically sound method to achieve the goal (P 324)

324. The proposed Reliability Standard must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve this goal.

Although any person may propose a topic for a Reliability Standard to the ERO, in the ERO's process, the specific proposed Reliability Standard should be developed initially by persons within the electric power industry and community with a high level of technical expertise and be based on sound technical and engineering criteria. It should be based on actual data and lessons learned from past operating incidents, where appropriate. The process for ERO approval of a proposed Reliability Standard should be fair and open to all interested persons.

Response:

3. Must be applicable to owners, users, or operators of the bulk-power system, and not others (P 322)

322. The proposed Reliability Standard may impose a requirement on any user, owner, or operator of such facilities, but not on others.

Response:

4. Must be clear and unambiguous as to what is required and who is required to comply (P 325)

FERC Criteria for Determining Whether to Approve a Reliability Standard Applied to the Transmission Vegetation Management Standard FAC-003-1

325. The proposed Reliability Standard should be clear and unambiguous regarding what is required and who is required to comply. Users, owners, and operators of the Bulk-Power System must know what they are required to do to maintain reliability.

Response:

5. Must include clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation (P 326)

326. The possible consequences, including range of possible penalties, for violating a proposed Reliability Standard should be clear and understandable by those who must comply.

Response:

6. Must identify clear and objective criterion or measure for compliance, so that it can be enforced in a consistent and non-preferential manner (P 327)

327. There should be a clear criterion or measure of whether an entity is in compliance with a proposed Reliability Standard. It should contain or be accompanied by an objective measure of compliance so that it can be enforced and so that enforcement can be applied in a consistent and non-preferential manner.

Response:

7. Should achieve a reliability goal effectively and efficiently - but does not necessarily have to reflect “best practices” without regard to implementation cost (P 328)

328. The proposed Reliability Standard does not necessarily have to reflect the optimal method, or “best practice,” for achieving its reliability goal without regard to implementation cost or historical regional infrastructure design. It should however achieve its reliability goal effectively and efficiently.

Response:

8. Cannot be “lowest common denominator,” i.e., cannot reflect a compromise that does not adequately protect bulk-power system reliability (P 329)

329. The proposed Reliability Standard must not simply reflect a compromise in the ERO’s Reliability Standard development process based on the least effective North American practice—the so-called “lowest common denominator”—if such practice does not adequately protect Bulk-Power System reliability. Although the Commission will give due weight to the technical expertise of the ERO, we will not hesitate to remand a proposed Reliability Standard if we are convinced it is not adequate to protect reliability.

Response:

9. Costs to be considered for smaller entities but not at consequence of less than excellence in operating system reliability (P 330)

330. A proposed Reliability Standard may take into account the size of the entity that must comply with the Reliability Standard and the cost to those entities of implementing the proposed Reliability Standard. However, the ERO should not propose a “lowest common denominator” Reliability Standard that would achieve less than excellence in operating system reliability solely to protect against reasonable expenses for supporting this vital national infrastructure. For example, a small owner or operator of the Bulk Power-System must bear the cost of complying with each Reliability Standard that applies to it.

Response:

10. Must be designed to apply throughout North American to the maximum extent achievable with a single Reliability Standard while not favoring one area or approach (P 331)

331. A proposed Reliability Standard should be designed to apply throughout the interconnected North American Bulk-Power System, to the maximum extent this is achievable with a single Reliability Standard. The proposed Reliability Standard should not be based on a single geographic or regional model but should take into account geographic variations in grid characteristics, terrain, weather, and other such factors; it should also take into account regional variations in the organizational and corporate structures of transmission owners and operators, variations in generation fuel type and ownership patterns, and regional variations in market design if these affect the proposed Reliability Standard.

Response:

11. No undue negative effect on competition or restriction of the grid (P 332)

332. As directed by section 215 of the FPA, the Commission itself will give special attention to the effect of a proposed Reliability Standard on competition. The ERO should attempt to develop a proposed Reliability Standard that has no undue negative effect on competition. Among other possible considerations, a proposed Reliability Standard should not unreasonably restrict available transmission capability on the Bulk-Power System beyond any restriction necessary for reliability and should not limit use of the Bulk-Power System in an unduly preferential manner. It should not create an undue advantage for one competitor over another.

Response:

12. Implementation time (P 333)

333. In considering whether a proposed Reliability Standard is just and reasonable, the Commission will consider also the timetable for implementation of the new requirements, including how the proposal balances any urgency in the need to implement it against the reasonableness of the time allowed for those who must comply to develop the necessary procedures, software, facilities, staffing or other relevant capability.

Response:

13. Whether the reliability standard process was open and fair (P 334)

334. Further, in considering whether a proposed Reliability Standard meets the legal standard of review, we will entertain comments about whether the ERO implemented its Commission-approved Reliability Standard development process for the development of the particular proposed Reliability Standard in a proper manner, especially whether the process was open and fair. However, we caution that we will not be sympathetic to arguments by interested parties that choose, for whatever reason, not to participate in the ERO's Reliability Standard development process if it is conducted in good faith in accordance with the procedures approved by the Commission.

Response:

14. Balance with other vital public interests (P 335)

335. Finally, we understand that at times development of a proposed Reliability Standard may require that a particular reliability goal must be balanced against other vital public interests, such as environmental, social and other goals. We expect the ERO to explain any such balancing in its application for approval of a proposed Reliability Standard.

Response:

15. Any other relevant factors (P 323 and 337)

323. In considering whether a proposed Reliability Standard is just and reasonable, we will consider the following general factors, as well as other factors that are appropriate for the particular Reliability Standard proposed.

337. In applying the legal standard to review of a proposed Reliability Standard, the Commission will consider the general factors above. The ERO should explain in its application for approval of a proposed Reliability Standard how well the proposal meets these factors and explain how the Reliability Standard balances conflicting factors, if any. The Commission may consider any other factors it deems appropriate for determining if the proposed Reliability Standard is just and reasonable, not unduly discriminatory or preferential, and in the public interest. The ERO applicant may, if it chooses, propose other such general factors in its ERO application and may propose additional specific factors for consideration with a particular proposed Reliability Standard.

Response:

16. A Reliability Standard cannot conflict with prior Commission Orders, tariffs, etc.

Response:

17. A Reliability Standard cannot conflict with any other existing Reliability Standards.

Response: