

Non-binding Poll of VRFs and VSLs for FAC-003-2 (February 18-28, 2011) Consideration of Comments Report

Project 2007-07 Vegetation Management — September 30, 2011

Summary Consideration:

Some entities expressed concern regarding the use of the MVCD. The SDT explained that the MVCD was established as a beginning of a series of “building blocks” for a program to ensure reliability of a Transmission line within its rating and all rated electrical operating conditions, and that R3 requires that a Transmission Owner to consider the MVCD distances, as well as variables of conductor movement and the variables associated with vegetation growth, when designing the Transmission Owner’s overall vegetation management approach. The net result of this “building block” approach is that when entities implement R7, their efforts will result in vegetation management at clearance distances greater than the MVCD.

Other entities questioned if the intent of the standard is to “manage vegetation” or to “prevent outages. The STD responded that In Order 693, FERC was very specific that “...FAC-003-1 is designed to minimize transmission outages from vegetation located on or near transmission rights-of-way **by maintaining safe clearances between transmission lines and vegetation**” (emphasis added).

If you feel that the drafting team overlooked your comments, 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 Vice President and Director of Standards, Herb Schrayshuen, at 404-446-2563 or via email at herb.schrayshuen@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.¹

¹ The appeals process is in the Reliability Standards Development Procedure: http://www.nerc.com/files/RSDP_V6_1_12Mar07.pdf.

Voter	Entity	Segment	Vote	Comment
Gregory S Miller	Baltimore Gas & Electric Company	1	Affirmative	VRFs and VSLs seem reasonable.
Response: The SDT thanks you for your comments.				
Joseph S. Stonecipher	Beaches Energy Services	1	Negative	(See comments for 2007-07.)
Response: The SDT responded in the Successive Ballot Consideration of Comments document.				
Donald S. Watkins	Bonneville Power Administration	1	Affirmative	<p>In R1 and R2 and their associated VSLs, the SDT added the phrase “in order of increasing severity” and added the sentence, “The types of encroachments are listed in order of increasing degrees of severity in non-compliant performance as it relates to a failure of a TO’s vegetation maintenance program.” to the Rationale boxes for R1/R2. Do you agree? If answer is no, please explain.</p> <p>BPA prefers the stratified levels of violation severity presented in the table for R1 and R2. Foot note # 2 on page 8 needs to be clarified with respect to arboricultural activities or horticultural or agricultural activities.</p> <p>Foot note # 4 on page 12 needs to be clarified with respect to arboricultural activities or horticultural or agricultural activities.</p> <p>In response to comments received that requirement R3 is unclear with respect to intent, the SDT added “maintenance strategies.” Do you agree this clarifies the intent? If answer is no, please offer alternative language.</p>

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				<p>The TO procedures / policies and specifications shall demonstrate the TO's ability to manage the system at all rated conditions to maintain reliability. BPA believes that the intent is clear, but the fundamental approach of using the MVCD (table 2) to manage a vegetation program is still problematic. These values are flashover distances and are way too close. This is acknowledged in a footnote to table 2 but no identification of allowable buffers/distances between energized phase conductors at rated temperatures and vegetation is discussed (this is left up the transmission owners). Clarity is needed on this topic. Setting a finite distance limit based on recognized standards, good science and risk avoidance should be done for the industry. BPA has previously made this comment during the drafting of the standard. It was not addressed then, nor has it been addressed now.</p>
<p>Response: The SDT thanks you for your comments. The footnotes were changed to conform with your suggestions. With respect to comments about the MVCD, R3 does not suggest the MVCD be used as a distance to manage vegetation. The MVCD was established as a beginning of a series of "building blocks" for a program to ensure reliability of a Transmission line within its rating and all rated electrical operating conditions. R3 requires that a Transmission Owner consider the MVCD distances, as well as variables of conductor movement and vegetation growth, when designing the Transmission Owner's overall vegetation management approach. The net result of this "building block" approach is that when entities implement R7, their efforts will result in vegetation management at clearance distances greater than the MVCD. In a performance based standard, requirements are focused on "what" needs to be accomplished to achieve desired results and avoids prescriptive requirements of "how" to achieve that result. TO's are in the best position to determine the appropriate management approach suited for their system, rather than a "one size fits all" or "fill in the blank" requirement that could suppress best practices for vegetation management.</p>				
Randall McCamish	City of Vero Beach	1	Negative	Vero Beach's concern is that entities may not be able prove compliance with the standard. R1 and R2 say that: "Each

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				<p>Transmission Owner shall manage vegetation to prevent encroachments ...". If the requirements were interpreted such that "manage" is the operative word, then, we are OK because we can provide evidence of managing a program, such as a vegetation management plan and evidence of executing that plan (which does not align with the Measures). However, that 1) would cause the standard to not be performance based, and 2) it would be duplicative of the other requirements of the standard. If the requirements were interpreted with "prevent encroachment" as the operative phrase (which would be an incorrect interpretation from the construct of the sentence) there is no way to provide sufficient evidence that encroachment was prevented during the audit-period. The suggested Measures are not sufficient evidence to prove compliance with that interpretation of the requirement. For instance, most encroachments do not result in outages; hence, lack of outages cannot prove that there were no encroachments, and real time observations are insufficient because it is a spot-check that does not cover the audit period. There are other weaknesses in the standard, such as R4 being un-measurable therefore unenforceable. However, in the guilty until proven innocent paradigm we live in, FMPA's primary concern is that industry could be put into a no-win situation of not being able to prove compliance with the standard if R1 and R2 are interpreted as "prevent encroachment", and if R1 and R2 are interpreted as "manage" then it is not a performance based standard as advertised.</p> <p>Vero Beach suggests one of two approaches: 1. Performance based focused on preventing vegetation</p>

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				<p>related outages. For instance: "Each Transmission Owner shall prevent vegetation related outages (except as noted in Footnote 2) of any of its applicable line(s) ..." Evidence of outages is practical to gather and provide, evidence of encroachment is not. 2. Modify the standard to be similar to the currently mandatory non-results based standard and focus on the word "manage". This would essentially mean eliminating R1 and R2 since the rest of the standard focuses on having a plan and managing to that plan..</p>
<p>Response: The SDT thanks you for your comments. In Order 693, FERC was very specific that "...FAC-003-1 is designed to minimize transmission outages from vegetation located on or near transmission rights-of-way by maintaining safe clearances between transmission lines and vegetation" (emphasis added). The drafting team followed that concept and used R1 and R2 to move the clearance from a documentation requirement to a performance requirement. Item 1 in the requirements defines how an encroachment without an outage would be documented. Each Transmission Owner is also required to conduct inspections in which clearances are evaluated.</p>				
Christopher L de Graffenried	Consolidated Edison Co. of New York	1	Affirmative	<p>The VSLs in R6 and R7 should be consistent with each other: R6 says '...TO failed to inspect 5% or less....' and R7 says '...TO failed to complete up to 5%....' They both should use the same verbiage in each VSL whether it is 'x% or less' or 'up to and including x%.'</p>
<p>Response: The SDT thanks you for your comments. The SDT has changed the verbiage in the VSLs in R6 and R7 such that it addresses you suggestion.</p>				
Michael Gammon	Kansas City Power & Light Co.	1	Negative	<p>The VSL for Requirement 7 should be clear and specifically state this specifically addresses only "all applicable lines".</p>
<p>Response: The SDT thanks you for your comments. The team has added the phrase, "applicable lines" as proposed to all the VSLs for R7.</p>				
Stan T.	Keys Energy	1	Negative	<p>Concern is that entities may not be able prove compliance with the standard. R1 and R2 say that: "Each Transmission</p>

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Rzad	Services			<p>Owner shall manage vegetation to prevent encroachments ...". If the requirements were interpreted such that "manage" is the operative word, then, we are OK because we can provide evidence of managing a program, such as a vegetation management plan and evidence of executing that plan (which does not align with the Measures). However, that 1) would cause the standard to not be performance based, and 2) it would be duplicative of the other requirements of the standard. If the requirements were interpreted with "prevent encroachment" as the operative phrase (which would be an incorrect interpretation from the construct of the sentence) there is no way to provide sufficient evidence that encroachment was prevented during the audit-period. The suggested Measures are not sufficient evidence to prove compliance with that interpretation of the requirement. For instance, most encroachments do not result in outages; hence, lack of outages cannot prove that there were no encroachments, and real time observations are insufficient because it is a spot-check that does not cover the audit period. There are other weaknesses in the standard, such as R4 being un-measurable therefore unenforceable. However, in the guilty until proven innocent paradigm we live in, FMPA's primary concern is that industry could be put into a no-win situation of not being able to prove compliance with the standard if R1 and R2 are interpreted as "prevent encroachment", and if R1 and R2 are interpreted as "manage" then it is not a performance based standard as advertised. one of two approaches are suggested: Performance based focused on preventing vegetation related outages. For instance: "Each Transmission Owner shall prevent vegetation related</p>

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				<p>outages (except as noted in Footnote 2) of any of its applicable line(s) ..." Evidence of outages is practical to gather and provide, evidence of encroachment is not. Modify the standard to be similar to the currently mandatory non-results based standard and focus on the word "manage". This would essentially mean eliminating R1 and R2 since the rest of the standard focuses on having a plan and managing to that plan..</p>
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Walt Gill	Lake Worth Utilities	1	Negative	<p>concern is that entities may not be able prove compliance with the standard. R1 and R2 say that: "Each Transmission Owner shall manage vegetation to prevent encroachments ...". If the requirements were interpreted such that "manage" is the operative word, then, we are OK because we can provide evidence of managing a program, such as a vegetation management plan and evidence of executing that plan (which does not align with the Measures). However, that 1) would cause the standard to not be performance based, and 2) it would be duplicative of the other requirements of the standard. If the requirements were interpreted with "prevent encroachment" as the operative phrase (which would be an incorrect interpretation from the construct of the sentence) there is no way to provide sufficient evidence that encroachment was prevented during the audit-period. The suggested Measures are not sufficient evidence to prove compliance</p>

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Marvin E VanBebber	Oklahoma Gas and Electric Co.	1	Negative	R3 VSL leaves a lot open to interpretation in the analysis area. This is one where the auditor could be heavy handed if he desired.
<p>Response: The SDT thanks you for your comments. The Requirement 3 VSL does in fact give TO significant latitude with respect to maintaining appropriate clearances. As noted in the Rationale, “The documentation provides a basis for evaluating the competency of the Transmission Owner’s vegetation program. There may be many acceptable approaches to maintain clearances.” In a performance based standard, requirements (and associated VSLs) are focused on “what” needs to be accomplished to achieve desired results and avoids prescriptive requirements of “how” to achieve that result. TO’s are in the best position to determine the appropriate management approach suited for their system rather than a “one-size-fits-all” requirement that could suppress best practices for vegetation management. With this in mind, if the TO is audited, and it has a well crafted vegetation management program and has properly documented procedures and results, it should be in a good position.</p>				
Keith V Carman	Tri-State G & T Association, Inc.	1	Affirmative	There needs to be a change in the footnote 2 and footnote 4 to remove the exemption for “arboricultural activities or horticultural or agricultural activities” and replace it with the term “ installation of”.
<p>Response: The SDT thanks you for your comments. The footnotes have been changed as proposed.</p>				
Mark B Thompson	Alberta Electric System Operator	2	Abstain	VRFs and VSLs are set by Provincial authorities in Alberta.
<p>Response: The SDT thanks you for your comments.</p>				
David A. Lapinski	Consumers Energy	3	Negative	Comments on FAC-003-2 February 25, 2011 Consumers Energy submits the following comments on FAC-003-2: In general we are please with FAC-003-2 and the many clarifications that the STD has made in this version of the standard. However, we do have one major disagreement with the STD and cannot support this standard as drafted.

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				<p>We disagree with the use of the Minimum Vegetation Clearance Distance (MVCD) developed by the drafting team for Requirements R1 and R2. These distances are not the design distances used for designing and constructing transmission facilities as stated in the document for minimum distances between conductors and grounded objects. The proposed Table 2 provides a distance of 3.12 feet as the acceptable distance for an alternate current 345kV line at sea level. This distance is considerably less than the distance used for line design to separate the grounded tower structure from the energized conductor. If the distance in Table 2 is acceptable to prevent energized portions of a transmission line from grounding to a tree why then is this distance not the design criteria used for tower design to prevent flashover from conductor to tower? The STD needs to explain why a ground tree should have a different standard than a grounded steel tower or wood pole structure. The STD erroneously viewed the possibility of transient over voltage as only occurring during re-energizing and not from natural events such as a lightning strike that can occur and does occur to energized operating lines. Secondly, the proposed distances in Table 2 are considerably less than the distances specified in OSHA requirements for air gap clearance required by tree workers to safely remove trees or limbs from conductors energized at the voltages specified. A transmission owner/operator could let a tree grow to within 3.5 feet of a 345 kV line and not be in violation of this proposed standard. To remove the tree, the line would have to be de-energized, tagged, tested de-energized, and grounded. Working clearance would have to be established by the operating entity and then the tree crew could remove the</p>

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				<p>tree. The net result is the loss of the capacity of the line because an outage was forced on the line in order to remove the tree that did not trigger a violation of FAC-003-2. This situation, in our opinion, is a violation of the intent of the standard, which is to ensure the continued operation of the line. Therefore, the minimum distance any tree should be able to approach a conductor is more than the minimum requirement for air gap distance between the tree and conductor as required by OSHA worker standards. The STD did not like referring to another standard to provide the distance requirements for R1 and R2. This can be alleviated by putting in a table with the IEEE 516 distances but not reference it as the IEEE 516 standard. The distances provided in the current draft do not adequately provide or ensure the continued safe operation of the transmission facilities in the United States and the reasoning for the distances provided is unfounded and not based on current design practices.</p>
<p>Response: The SDT thanks you for your comments. You are correct that these distances do not represent complete design specifications for towers, nor define and describe safe worker approach distances. These practices are correctly specified in the other standards you referenced. The SDT feels the standard is clear in that regard. The footnote associated with the Table 2 distances clearly states that these are only distances to prevent flashover under appropriate conditions. The SDT would also like to point out that the transient overvoltage factors used to derive these distances are the maximums normally seen with a transmission line in steady state service. Thus, a tower design would have to account for the larger overvoltage factors that are possible while taking lines out of service.</p> <p>As has been stated before, these distances were derived using a known set of line design equations and only represent distances that will prevent spark-over from the transmission line to a grounded object. These are not distances to be managed to – they have been established as a beginning of a series of “building blocks” for a program to ensure reliability of a Transmission line within its rating and all rated electrical operating conditions.</p> <p>R3 requires that a Transmission Owner’ consider the MVCD distances, as well as variables of conductor movement and vegetation growth, when designing the Transmission Owner’s overall vegetation management approach. The net result of this</p>				

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<p>“building block” approach is that when entities implement R7, their efforts will result in vegetation management at clearance distances greater than the MVCD.</p> <p>These distances are smaller than safety standard distances that have many other factors involved in the determination, such as inadvertent human movement and larger safety factors. In regard to the over-voltages caused by lightning, even the maximum overvoltage factors contained in the IEEE-516 tables do not account for these.</p>				
Russell A Noble	Cowlitz County PUD	3	Negative	<p>Referring back to Cowlitz’ negative vote made on the 7/9-19/2010 ballot, Cowlitz tried to convey the problem that the statement in R4 “without intentional time delay” will require subjective judgment on the part of the auditor. In other words, maintaining equal auditing standard throughout the interconnection will be impossible with this verbiage in a requirement. Cowlitz agrees with the SDT that establishing an equitable time frame is very difficult (it may be impossible!); however leaving it to the judgment of the auditor to determine whether an intentional delay was made is most disagreeable. Cowlitz respectfully points out that the SDT did not adequately address the subjective nature the auditor is forced into with this requirement. If establishing “[t]he time required by the to report an issue is subject to many variables...” and “[f]or this reason it is difficult to establish a time period which would fairly apply to all TO’s,” how does leaving this to the auditor to decide going to make it any better?</p>
<p>Response: The SDT thanks you for your comments. The SDT believes that it was not prudent to suggest a quantitative time element for notification in R4. The technical reference offers examples of acceptable unintentional delays for your review. The SDT notes that this language is already embodied in at least one other FERC-approved, in-force Standard.</p>				
Charles Locke	Kansas City Power & Light Co.	3	Negative	<p>The VSL for Requirement 7 should be clear and specifically state this specifically addresses only "all applicable lines".</p>

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<p>Response: The SDT thanks you for your comments. The team has added the phrase, “applicable lines” as proposed to all the VSLs for R7.</p>				
Mace Hunter	Lakeland Electric	3	Affirmative	<p>R1. Each Transmission Owner shall manage vegetation to prevent encroachments of the types shown below, ----- and all Rated Electrical Operating Conditions.2 1. An encroachment into the MVCD as shown in FAC-003-Table 2, observed in Real-time, absent a Sustained Outage, that is not corrected within 5 working days of discovery, Make the same change to R2 Type 1 encroachment and reflect the changes in Table 1. Rational: This condition would enable a entity to discover an encroachment and clear it without having to self report a possible violation as long as the conditions was corrected within 5 working days. The change should encourage extra inspections for problem areas more often than annually as required in R6. There should be no negative consequences for diligent inspection of lines as long as the problem is clear with a defined time such as 5 or 10 working days.</p>
<p>Response: The SDT thanks you for your comment. As a general rule, a revised standards should not be less stringent than the existing standard it replaces. In the existing standard, a violation occurs when the encroachment occurs. A ‘find and fix’ of five days would be viewed as a lowering the level of performance required by the current standard.</p>				
Rick Syring	Cowlitz County PUD	4	Negative	<p>Referring back to Cowlitz’ negative vote made on the 7/9-19/2010 ballot, Cowlitz tried to convey the problem that the statement in R4 “without intentional time delay” will require subjective judgment on the part of the auditor. In other words, maintaining equal auditing standard throughout the interconnection will be impossible with this verbiage in a requirement. Cowlitz agrees with the SDT that establishing an equitable time frame is very difficult (it may be impossible!); however leaving it to the judgment of the</p>

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				<p>auditor to determine whether an intentional delay was made is most disagreeable. Cowlitz respectfully points out that the SDT did not adequately address the subjective nature the auditor is forced into with this requirement. If “[t]he time required by the entity to report an issue is subject to many variables...” and “[f]or this reason it is difficult to establish a time period which would fairly apply to all TO’s,” how does leaving this to the auditor to decide going to make it any better? You will be forcing the audited entity to "prove the negative."</p>
<p>Response: The SDT thanks you for your comments. The SDT believes that it was not prudent to suggest a quantitative time element for notification in R4. The technical reference offers examples of acceptable unintentional delays for your review. The SDT notes that this language is already embodied in at least one other FERC-approved, in-force Standard.</p>				
Frank Gaffney	Florida Municipal Power Agency	4	Negative	<p>R1 and R2 requirement reads: "Each Transmission Owner shall manage to prevent encroachment". The results of manage would be invoices of tree trimming actually performed, documentation of a vegetation management program that would be managed to, etc. However, the Measures proposed are all actual outages which are neither evidence of management nor evidence of encroachment since there can be encroachment without an outage, and in fact, many if not most encroachments do not result in outages. Hence, the Measures are inconsistent with the requirements. Further, there is ambiguity of the action required in requirements R1 and R2 - e.g., do entities need evidence that they: 1) "manage", or 2) "prevent encroachment"; or 3) as implied by the Measures, prevent vegetation related outages?. In other words, what needs to be proven through evidence? Certainly the third, prevent vegetation related outages, is not in the Requirement; yet, that us what is proposed for the Measures, highlighting the</p>

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				<p>inconsistency between Requirements and Measures. But, how would the ambiguity between "manage" and "prevent encroachment" be resolved? One auditor could interpret that the requirement is to "manage" and accept a vegetation management program and plan and proof that the plan was executed as appropriate evidence. Another auditor could interpret that "prevent" is the key word and look for evidence proving that there was never a vegetation encroachment. How would evidence be produced to provide the auditor that vegetation never encroached? Would video cameras and other surveillance measures need to operate 24 hours a day? Would we cause an entity to survey the lines periodically? One can easily see that "prevent encroachment" is inappropriate here since it is infeasible to create evidence of compliance. FMPA suggests one of two approaches: Eliminate the word manage, but do not focus on encroachment and instead focus on outages. For instance: "Each Transmission Owner shall prevent vegetation related outages (except as noted in Footnote 2) of any of its applicable line(s) ..." Evidence of outages is practical to gather and provide, evidence of encroachment is not. Focus on the word "manage", similar to the existing FAC-003 standard, and move R3 to a new R1 to develop a management plan, and then the existing R1 and R2 become R2 an R3 and require execution of that plan in the words of R7, which would in turn enables elimination of R7.</p>
<p>Response: The SDT thanks you for your comments. In Order 693 FERC was very specific that "...FAC-003-1 is designed to minimize transmission outages from vegetation located on or near transmission rights-of-way by maintaining safe clearances between transmission lines and vegetation" (emphasis added). The drafting team followed that concept and used R1 and R2 to move the clearance from a documentation requirement to a performance requirement. Item 1 in the requirements defines how an encroachment without an outage would be documented. Each Transmission Owner is also required to conduct</p>				

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Douglas Hohlbaugh	Ohio Edison Company	4	Affirmative	For the Requirement R1 and R2 VSLs, we suggest that the proposed Moderate (fall-ins) and High (blowing together) VSL be interchanged. We believe that fall-ins are more severe encroachments than blowing together and the categories listed in the compliance section support this point. Category 1 (grow-ins) is most severe, followed by Category 2 & 3 (fall-ins) and Category 4 (blowing together). If the team elects to not make the suggested VSL changes then a change in the category listing within the compliance section is warranted. Either way they should be consistent.
<p>Response: The SDT believes that there is consensus that “blowing-together” events are more indicative of a program failure than are “fall-in” events. Further, the risk to the transmission system from blowing-together events is greater than for fall-ins; partly because blowing-together events are more likely to repeat themselves, whereas fall-ins generally end on the spot. The SDT agrees with you that the ordering of the categories seems to convey a different message; however, re-sequencing the categories in order of severity would have led to a clash with the existing categories in Version 1 and thus would have provoked widespread confusion.</p>				
Francis J. Halpin	Bonneville Power Administration	5	Affirmative	<p>In R1 and R2 and their associated VSLs, the SDT added the phrase “in order of increasing severity” and added the sentence, “The types of encroachments are listed in order of increasing degrees of severity in non-compliant performance as it relates to a failure of a TO’s vegetation maintenance program.” to the Rationale boxes for R1/R2. Do you agree? If answer is no, please explain.</p> <p>BPA prefers the stratified levels of violation severity presented in the table for R1 and R2. Foot note # 2 on page 8 needs to be clarified with respect to arboricultural activities or horticultural or agricultural activities.</p>

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				<p>Foot note # 4 on page 12 needs to be clarified with respect to arboricultural activities or horticultural or agricultural activities.</p> <p>In response to comments received that requirement R3 is unclear with respect to intent, the SDT added “maintenance strategies.” Do you agree this clarifies the intent? If answer is no, please offer alternative language. The TO procedures / policies and specifications shall demonstrate the TO’s ability to manage the system at all rated conditions to maintain reliability. BPA believes that the intent is clear, but the fundamental approach of using the MVCD (table 2) to manage a vegetation program is still problematic. These values are flashover distances and are way too close. This is acknowledged in a footnote to table 2 but no identification of allowable buffers/distances between energized phase conductors at rated temperatures and vegetation is discussed (this is left up the transmission owners). Clarity is needed on this topic. Setting a finite distance limit based on recognized standards, good science and risk avoidance should be done for the industry. BPA has previously made this comment during the drafting of the standard. It was not addressed then, nor has it been addressed now.</p>
<p>Response: The SDT thanks you for your comments. The footnotes were changed to conform with your suggestions. With respect to comments about the MVCD, R3 does not suggest the MVCD be used as a distance to manage vegetation. The MVCD was established as a beginning of a series of “building blocks” for a program to ensure reliability of a Transmission line within its rating and all rated electrical operating conditions.</p> <p>R3 requires that a Transmission Owner consider the MVCD distances, as well as variables of conductor movement and</p>				

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<p>vegetation growth, when designing the Transmission Owner’s overall vegetation management approach. The net result of this “building block” approach is that when entities implement R7, their efforts will result in vegetation management at clearance distances greater than the MVCD distances.</p> <p>In a performance based standard, requirements are focused on “what” needs to be accomplished to achieve desired results and avoids prescriptive requirements of “how” to achieve that result. TO’s are in the best position to determine the appropriate management approach suited for their system rather than a “one size fits all” requirements that could suppress best practices for vegetation management.</p>				
James B Lewis	Consumers Energy	5	Negative	See comments on the Standard.
<p>Response: The SDT thanks you for your comments that were made during the formal comment period for the Standard; the SDT’s responses to those comments are available there.</p>				
Bob Essex	Cowlitz County PUD	5	Negative	<p>Referring back to Cowlitz’ negative vote made on the 7/9-19/2010 ballot, Cowlitz tried to convey the problem that the statement in R4 “without intentional time delay” will require subjective judgment on the part of the auditor. In other words, maintaining equal auditing standard throughout the interconnection will be impossible with this verbiage in a requirement. Cowlitz agrees with the SDT that establishing an equitable time frame is very difficult (it may be impossible!); however leaving it to the judgment of the auditor to determine whether an intentional delay was made is most disagreeable. Cowlitz respectfully points out that the SDT did not adequately address the subjective nature the auditor is forced into with this requirement. If establishing “[t]he time required by the to report an issue is subject to many variables...” and “[f]or this reason it is difficult to establish a time period which would fairly apply to all TO’s,” how does leaving this to the auditor to decide going to make it any better?</p>

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<p>Response: The SDT thanks you for your comments. The SDT believes that it was not prudent to suggest a quantitative time element for notification in R4. The technical reference offers examples of acceptable unintentional delays for your review. The SDT notes that this language is already embodied in at least one other FERC-approved, in-force Standard.</p>				
David Schumann	Florida Municipal Power Agency	5	Negative	<p>R1 and R2 requirement reads: "Each Transmission Owner shall manage to prevent encroachment". The results of manage would be invoices of tree trimming actually performed, documentation of a vegetation management program that would be managed to, etc. However, the Measures proposed are all actual outages which are neither evidence of management nor evidence of encroachment since there can be encroachment without an outage, and in fact, many if not most encroachments do not result in outages. Hence, the Measures are inconsistent with the requirements. Further, there is ambiguity of the action required in requirements R1 and R2 - e.g., do entities need evidence that they: 1) "manage", or 2) "prevent encroachment"; or 3) as implied by the Measures, prevent vegetation related outages?. In other words, what needs to be proven through evidence? Certainly the third, prevent vegetation related outages, is not in the Requirement; yet, that us what is proposed for the Measures, highlighting the inconsistency between Requirements and Measures. But, how would the ambiguity between "manage" and "prevent encroachment" be resolved? One auditor could interpret that the requirement is to "manage" and accept a vegetation management program and plan and proof that the plan was executed as appropriate evidence. Another auditor could interpret that "prevent" is the key word and look for evidence proving that there was never a vegetation encroachment. How would evidence be produced to provide the auditor that vegetation never encroached?</p>

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				<p>Would video cameras and other surveillance measures need to operate 24 hours a day? Would we cause an entity to survey the lines periodically? One can easily see that "prevent encroachment" is inappropriate here since it is infeasible to create evidence of compliance. FMPA suggests one of two approaches: Eliminate the word manage, but do not focus on encroachment and instead focus on outages. For instance: "Each Transmission Owner shall prevent vegetation related outages (except as noted in Footnote 2) of any of its applicable line(s) ..." Evidence of outages is practical to gather and provide, evidence of encroachment is not. Focus on the word "manage", similar to the existing FAC-003 standard, and move R3 to a new R1 to develop a management plan, and then the existing R1 and R2 become R2 an R3 and require execution of that plan in the words of R7, which would in turn enables elimination of R7.</p>
<p>Response: The SDT thanks you for your comments. In Order 693 FERC was very specific that "...FAC-003-1 is designed to minimize transmission outages from vegetation located on or near transmission rights-of-way by maintaining safe clearances between transmission lines and vegetation" (emphasis added). The drafting team followed that concept and used R1 and R2 to move the clearance from a documentation requirement to a performance requirement. Item 1 in the requirements defines how an encroachment without an outage would be documented. Each Transmission Owner is also required to conduct inspections in which clearances are evaluated.</p>				
Brenda S. Anderson	Bonneville Power Administration	6	Affirmative	<p>BPA Comments with Yes Vote: In R1 and R2 and their associated VSLs, the SDT added the phrase "in order of increasing severity" and added the sentence, "The types of encroachments are listed in order of increasing degrees of severity in non-compliant performance as it relates to a failure of a TO's vegetation maintenance program." to the Rationale boxes for R1/R2. Do you agree? If answer is no, please explain.</p> <p>BPA prefers the stratified levels of violation severity</p>

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				<p>presented in the table for R1 and R2.</p> <p>Foot note # 2 on page 8 needs to be clarified with respect to arboricultural activities or horticultural or agricultural activities. Foot note # 4 on page 12 needs to be clarified with respect to arboricultural activities or horticultural or agricultural activities.</p> <p>In response to comments received that requirement R3 is unclear with respect to intent, the SDT added “maintenance strategies.” Do you agree this clarifies the intent? If answer is no, please offer alternative language. The TO procedures / policies and specifications shall demonstrate the TO’s ability to manage the system at all rated conditions to maintain reliability. BPA believes that the intent is clear, but the fundamental approach of using the MVCD (table 2) to manage a vegetation program is still problematic. These values are flashover distances and are way too close. This is acknowledged in a footnote to table 2 but no identification of allowable buffers/distances between energized phase conductors at rated temperatures and vegetation is discussed (this is left up the transmission owners). Clarity is needed on this topic. Setting a finite distance limit based on recognized standards, good science and risk avoidance should be done for the industry. BPA has previously made this comment during the drafting of the standard. It was not addressed then, nor has it been addressed now.</p>
<p>Response: The SDT thanks you for your comments. The footnotes were changed to conform with your suggestions. With respect to comments about the MVCD, R3 does not suggest the MVCD be used as a distance to manage vegetation. The MVCD</p>				

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<p>was established as a beginning of a series of “building blocks” for a program to ensure reliability of a Transmission line within its rating and all rated electrical operating conditions.</p> <p>R3 requires that a Transmission Owner’ consider the MVCD distances, as well as variables of conductor movement and vegetation growth, when designing the Transmission Owner’s overall vegetation management approach. The net result of this “building block” approach is that when entities implement R7, their efforts will result in vegetation management at clearance distances greater than the MVCD distances.</p> <p>In a performance based standard, requirements are focused on “what” needs to be accomplished to achieve desired results and avoids prescriptive requirements of “how” to achieve that result. TO’s are in the best position to determine the appropriate management approach suited for their system rather than a “one size fits all” requirement that could suppress best practices for vegetation management.</p>				
Nickesha P Carrol	Consolidated Edison Co. of New York	6	Affirmative	The VSLs in R6 and R7 should be consistent with each other: R6 says '...TO failed to inspect 5% or less.....' and R7 says '...TO failed to complete up to 5%....' They both should use the same verbiage in each VSL whether it is 'x% or less' or 'up to and including x%.'
<p>Response: The SDT thanks you for your comments. The SDT has changed the verbiage in the VSLs in R6 and R7 such that it addresses you suggestion.</p>				
Mark S Travaglianti	FirstEnergy Solutions	6	Affirmative	FirstEnergy supports standard FAC-003-2 and would appreciate consideration of our comments submitted through the formal comment period.
<p>Response: The SDT thanks you for your comments and has reviewed and responded to your comments made during the formal comment period.</p>				
Thomas E Washburn	Florida Municipal Power Pool	6	Negative	The concern is that entities may not be able prove compliance with the standard. R1 and R2 say that: "Each Transmission Owner shall manage vegetation to prevent encroachments ...". If the requirements were interpreted such that "manage" is the operative word, then, we are OK because we can provide evidence of managing a program, such as a vegetation management plan and evidence of

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				<p>executing that plan (which does not align with the Measures). However, that 1) would cause the standard to not be performance based, and 2) it would be duplicative of the other requirements of the standard. If the requirements were interpreted with "prevent encroachment" as the operative phrase (which would be an incorrect interpretation from the construct of the sentence) there is no way to provide sufficient evidence that encroachment was prevented during the audit-period. The suggested Measures are not sufficient evidence to prove compliance with that interpretation of the requirement. For instance, most encroachments do not result in outages; hence, lack of outages cannot prove that there were no encroachments, and real time observations are insufficient because it is a spot-check that does not cover the audit period. There are other weaknesses in the standard, such as R4 being un-measurable therefore unenforceable. However, in the guilty until proven innocent paradigm we live in, FMPA's primary concern is that industry could be put into a no-win situation of not being able to prove compliance with the standard if R1 and R2 are interpreted as "prevent encroachment", and if R1 and R2 are interpreted as "manage" then it is not a performance based standard as advertised. Performance based focused on preventing vegetation related outages. For instance: "Each Transmission Owner shall prevent vegetation related outages (except as noted in Footnote 2) of any of its applicable line(s) ..." Evidence of outages is practical to gather and provide, evidence of encroachment is not. Modify the standard to be similar to the currently mandatory non-results based standard and focus on the word "manage". This would essentially mean eliminating R1</p>

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				and R2 since the rest of the standard focuses on having a plan and managing to that plan..
<p>Response: The SDT thanks you for your comments. In Order 693 FERC was very specific that “...FAC-003-1 is designed to minimize transmission outages from vegetation located on or near transmission rights-of-way by maintaining safe clearances between transmission lines and vegetation” (emphasis added). The drafting team followed that concept and used R1 and R2 to move the clearance from a documentation requirement to a performance requirement. Item 1 in the requirements defines how an encroachment without an outage would be documented. Each Transmission Owner is also required to conduct inspections in which clearances are evaluated.</p>				
Thomas Saitta	Kansas City Power & Light Co.	6	Negative	The VSL for Requirement 7 should be clear and specifically state this specifically addresses only "all applicable lines".
<p>Response: The SDT thanks you for your comments. The team has added the phrase, “applicable lines” as proposed to all the VSLs for R7.</p>				
James Eckelkamp	Progress Energy	6	Affirmative	There needs to be a change in the footnote 2 and footnote 4 to remove the exemption for “arboricultural activities or horticultural or agricultural activities” and replace it with the term “installation of.”
<p>Response: The SDT thanks you for your comments. The changes to the footnotes have been made as proposed.</p>				
Guy V. Zito	Northeast Power Coordinating Council, Inc.	10	Affirmative	The use of the term “encroachment”, and the lack of clarity in defining clearances is an issue that should be addressed by the Drafting Team.
<p>Response: The SDT thanks you for your comments. With regard to the use of “encroachment” and the clarity in defining clearances as it relates to the VRFs and VSLs, the SDT has taken what was a “gray” area in Version 1 and added more clarity with regard to compliance. In Version 1, it is not actually clear whether experiencing an encroachment or experiencing outage is a violation of the standard. The SDT recognized this concern and has addressed this via the proposed VSLs for R1 and R2. These proposed VSLs are designed such to correlate to the severity level of failure of the Transmission Owner’s vegetation management program.</p>				

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<p>If you refer to the VSLs for R1 and R2, only the “Lower” VSLs apply to an encroachment, and that has been defined as “an encroachment into the MVCD observed in Real-time, absent a Sustained Outage.” The “MVCD” clearance distance is clearly defined in Table 2 of the Standard. After the Lower VSL level for these requirements, the Moderate to Severe VSLs are correlated more directly to the severity of failure of the Transmission Owner’s vegetation management program associated with a Sustained Outage. The SDT makes this recommendation of VSLs based on this being an improvement for compliance clarity over version 1 of the standard.</p>				
<p>Anthony E Jablonski</p>	<p>ReliabilityFirst Corporation</p>	<p>10</p>	<p>Negative</p>	<p>ReliabilityFirst votes negative and has the following comments regarding the VRFs and VSLs:</p> <ol style="list-style-type: none"> 1. VRF for R1 and R2 a. The Final Report on the August 14th, 2003 Blackout in the United States and Canada: Causes and Recommendations Blackout Report, highlights the importance of all vegetation management work by identifying inadequate vegetation management as one of the causes of the 2003 Blackout. Based on the Blackout Report there should be no distinction between encroachments of applicable line(s) identified as an element of an Interconnection Reliability Operating Limit (IROL) or Major Western Electricity Coordinating Council (WECC) transfer path(s) and encroachments of applicable line(s) not identified as an element of an Interconnection Reliability Operating Limit (IROL) or Major Western Electricity Coordinating Council (WECC) transfer path(s). Therefore, ReliabilityFirst recommends that VRFs should be the same for R1 and R2. 2. VSL for R3 a. Since this requirement has sub-parts associated with it, the associated sub-part number should be referenced in the VSL itself.

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				<p>3. VSL for R4 a. The words in the VLS do not match the language in the requirement. The words “vegetation threat” is not mentioned in Requirement R4. Based on the FERC Guideline #3 “Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement”</p> <p>4. VSL for R6 a. The following qualifier should be added to the end of each of the four VSLs, “...at least once per calendar year and with no more than 18 months between inspections on the same ROW” to be consistent with the corresponding requirement and in accordance with the FERC Guideline #3.</p> <p>5. VSL for R7 a. There is no associated VSL dealing with the second part of the requirement which references that “... the Modifications to the work plan... must be documented.” Where does an entity fall if they have complete 100% of its annual vegetation work plan, but failed to document any modifications to the work plan? This aspect of the requirement should be addressed in the corresponding VSLs.</p>

Response: The SDT thanks you for your comments.

1) In Order 693 FERC was very specific that “...FAC-003-1 is designed to minimize transmission outages from vegetation located on or near transmission rights-of-way **by maintaining safe clearances between transmission lines and vegetation**” (emphasis added). Following that concept, the SDT used R1 and R2 to move the clearance from a documentation requirement to a performance requirement. .

R1 and R2 are dealing with the differentiation between lines that fall into an IROL or WECC Transfer Path definition and those lines that do not. The SDT asserts that different VRF’s for IROL and non-IROL lines strengthens the reliability of the standard. Vegetation managers that do not know which lines are IROL or WECC Transfer Paths may be inappropriately limiting resources allocated to vegetation management for an IROL line or a WECC Transfer Path. A vegetation manager must ensure that the

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<p>IROL lines and WECC transfer paths are absolutely clear. By correctly identifying the risk associated with an IROL line and/or a WECC Transfer Path, the standard helps to assure that appropriate resources are applied.</p> <p>2) The sub-parts referred to are part of the RBS building block approach to document how a TO prevents encroachment of vegetation into the MVCD. The sub parts are not separate elements but make up the processes, strategies, procedures or specifications to prevent encroachment in to the MVCD.</p> <p>3) The SDT believes the correlation between R4 and the VSL is appropriate.</p> <p>4) The SDT believes the correlation between R6 and the VSL is appropriate.</p> <p>5) The wording in the VSL for R7 has been modified to address modifications to the annual work plan.</p>				