

Note – This form is to comment on Version 1 of the “**Transmission System Vegetation Management**” SAR.

The latest version of this SAR (Transmission System Vegetation Management) is posted on the Standards web site at: [ftp://www.nerc.com/pub/sys/all\\_updl/standards/sar/Trans\\_Sys\\_Veg\\_Mgt\\_SAR\\_V1\\_052004.doc](ftp://www.nerc.com/pub/sys/all_updl/standards/sar/Trans_Sys_Veg_Mgt_SAR_V1_052004.doc)

E-mail this form between May 20 and June 21, 2004 to: [sarcomm@nerc.com](mailto:sarcomm@nerc.com) with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of

**Background:**

Version 1 of the “**Transmission System Vegetation Management**” SAR was developed by the Vegetation Management Task Force of the NERC Planning Committee’s Transmission Issues Subcommittee. The purpose of this SAR is to guide the development of a transmission system vegetation management standard that has as a goal the elimination of transmission outages from vegetation located on transmission rights-of-way (ROW), and minimizing outages from vegetation located adjacent to ROW. It will also establish a requirement to report vegetation related transmission outages for transmission lines above 200 kV

***Please review Version 1 of the SAR and complete this Comment Form to provide feedback to the SAR Drafting Team on the development of a Transmission System Vegetation Management Standard.***



**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments: It's too bad that we need a standard to enforce something that has traditionally been done and still should be done with good utility practice.

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

Comments:

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments: I think it would be difficult to come up with a one size fits all clearance standard since different conductors have different sag characteristics, climate is very different throughout North America, and vegetation is very different across North America (varying rates of growth, etc.)

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments:

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments: Similar to the differences stated in (4), I don't see how NERC can establish a uniform minimum budget standard for vegetation management such as X dollars per mile of ROW per year. Costs of vegetation management depend on a wide variety of factors including terrain,

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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type of vegetation, access to ROW, climate, etc. These factors vary substantially even in localized areas. It may cost \$1000/mile to clear ROW for one mile and \$10,000/mile to clear ROW under another mile.

6. How would you recommend a transmission vegetation management standard be implemented after approval?

Comments: This standard will be difficult to enforce until there is a problem.

7. Do you have any other comments on this SAR?

Comments: Vegetation management is a local issue. I know that NERC is under pressure to take action in response to the August 14<sup>th</sup> blackout. In the past when everyone just adhered to good utility practice and did what was right, such a standard would not be needed. Maybe we need a generic standard that essentially says that you must obey good utility practice when it comes to vegetation management.

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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments:

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

Comments:

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments:

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments:

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments:

6. How would you recommend a transmission vegetation management standard be implemented after approval?

Comments:

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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7. Do you have any other comments on this SAR?

Comments: EIA is formulating a transmission outage-reporting requirement in their EIA411. The reporting requirements under this standard should not result in duplication of data being required by EIA.



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**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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**Committer Information (For Individual Commenters)**  
 Name: Stephen Cieslewicz  
 Organization: CN Utility Consulting LLC.  
 Industry Segment #:  
 Telephone: 707.829.1018  
 E-mail: steve@cutility.com

Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

**STD Commenter Information (For Groups Submitting Group Comments)**

|                       |                     |                     |
|-----------------------|---------------------|---------------------|
| <b>Name of Group:</b> | <b>Group Chair:</b> | <b>Chair Phone:</b> |
|                       | <b>Chair Email:</b> |                     |

**List of Group Participants that Support These Comments:**

| Name | Company | Industry Segment # |
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a “check” mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

X Comments: Current UVM standards do not meet current expectations of the public regarding the mitigation of tree related outages.

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes (with caveats)

No

X Comments: We heartily agree with most everything included in the SAR. The exceptions are noted in the following

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner’s vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No – NOT YET

X Comments: As we have described in our final UVM report to FERC, there are quite a few questions that should be answered, and issues addressed, before the wholesale adoption of mandatory clearance requirements. Mandatory clearance will cost exponentially more money yet no evidence is currently available that suggests it is worth the expense. While it is quite easy to just defer to a mandatory clearance requirement, the facts remains that utilities in North America do not currently have the complete authority to do the work, nor the adequate funding to comply with any new mandatory clearance requirement. And to be clear, the costs of transmission UVM could double or triple as a result of the promulgation of mandatory clearance requirements. Equally important, mandatory clearance requirements typically only address “vegetation growth”. Yet, the majority of tree related outages are actually caused by vegetation from outside a typical clearance zone. We suggest that prior to adopting mandatory clearances, these and other issues should be thoroughly vetted. We could endorse mandatory clearance requirements if we were certain they were effective in reaching the goal of reducing outages. Right now, the ship is still out.

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

X Comments: If the industry chooses to adopt mandatory clearance requirements, we would suggest that the best templates can be found in the Uniform Fire Code (UFC) and the Urban Wildland Interface Code (UWIC). These model fire codes contain clearance requirements that recognize that there should be two clearances: one at time of UVM work, and one clearance that should be

“maintained”. This subtle, yet important, distinction is critical for implementing any mandatory clearance requirement. In addition to being more workable than any other current clearance requirement (including California’s GO 95 Rule 35) these codes contain other very valuable provisions for preventing these problems from occurring in the first place. For example, the UWIC has specific size restrictions for planting trees and vegetation under or adjacent to overhead lines.

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

X Comments: This is an absolutely critical piece of the puzzle. Unfortunately, the majority of utilities currently base funding levels on historic work and anecdotal information, as opposed to what is actually needed to do the job. This is largely the result of an historic lack of adequate systems to effectively manage monumental inventories of vegetation. Fortunately, the availability of these systems seems to be improving.

6. How would you recommend a transmission vegetation management standard be implemented after approval?

X Comments: If the industry goes down the road of mandatory clearances, there must be a multi-year implementation period prior to enforcement. This will take a great deal of time, money, and resources to accomplish. While states like California and possibly Oregon will not have a problem with achieving and maintaining these new standards, the majority of other states will need time to come into compliance. Current utility cycles range from 3-10 years based on current efforts. In order to achieve and “maintain” mandatory clearances, many utilities will have to dramatically shorten this cycle just to make it through their system once. In most cases, it will cost a lot of money and still take years to accomplish. This will not happen over night. Another consideration is that the industry of people who do the actual work may not be able to support the increased need of their services. Quite simply, there is a serious shortage of contractors and competition in this industry. There are not enough workers, and definitely not enough competition in this industry to address the implementation of new mandatory clearance requirements. This important, yet not well known issue should be addressed as the industry moves forward.

7. Do you have any other comments on this SAR?

X Comments: We believe that the correct baseline measurement of any UVM program should be, did you prevent tree and power line conflicts before they occurred? In that respect, it is appropriate for NERC (and other agencies) to track and monitor tree related outages. However, there should be a distinction between “Growth” and “Non-Growth” tree related outages. We know that the majority of tree related outages are not caused by “clearance” issues. They are caused by trees and vegetation outside of what would be normally cleared during UVM operations. Without making this distinction in reporting, there will be little value in aggregating all tree related outages into one category. There must be a differentiation between what was “avoidable” and what was “unavoidable”. Without that distinction, there is no value in this reporting.

We would also raise the issue of accuracy in tree related outage reporting. While this may, or may not, be an issue for Transmission outage reporting nationally, we do know that there are problems with how tree related outages are reported in general. We might suggest that the Committee consider reviewing current practices and possibly developing standards for investigating and reporting tree related outages to ensure accuracy and uniformity.

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|  |                                |
|--|--------------------------------|
| <b>Commenter Information (For Individual Commenters)</b> |                                |
| Name:  | George Bartlett/Deirdre Cullen |
| Organization:  | ENTERGY Transmission           |
| Industry Segment #1                                      |                                |
| Telephone:   | 504-310-5370                   |
| E-mail:  | dcullen@entergy.com            |

|   |
|---|
| <p>Key to Industry Segment #'s:</p> <p><b>1 – Trans. Owners</b><br/> <b>2 – RTO's, ISO's, RRC's</b><br/> <b>3 – LSE's</b><br/> <b>4 – TDU's</b><br/> <b>5 - Generators</b><br/>         6 - Brokers, Aggregators, and Marketers<br/> <b>7 - Large Electricity End Users</b><br/> <b>8 - Small Electricity Users</b><br/>         9 - Federal, State, and Provincial<br/>         Regulatory or other Govt. Entities</p> |
|---|

**STD Commenter Information (For Groups Submitting Group Comments)**

|  |  |
|--|--|
| <b>Name of Group:</b> Entergy Transmission | <b>Group Chair:</b> Deirdre Cullen <b>Chair Phone:</b> 504-310-5370<br><b>Chair Email:</b> dcullen@entergy.com |
|--|--|

**List of Group Participants that Support These Comments:**

| Name | Company | Industry Segment # |
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

- Yes
- No
- Comments:

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

- Yes
- No

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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Comments:

*A standard should be developed to ensure that vegetation is managed by every Transmission Owner. Lines that are likely to cause or contribute to cascading outages due to preventable vegetation-related incidents should be included in the program. Furthermore, such preventable vegetation-related outages should include only those that the Transmission Owner has the right and the obligation to prevent under the terms of legacy and new ROW easements.*

*The objective of the SAR should be to ensure that the transmission owners have programs in place that can control and manage vegetation and allow those that are closest to the field and the most knowledgeable the latitude to do so in a responsible and responsive manner.*

*The SAR, Version 1, imposes obligations on transmission owners that the owners have no power to accomplish or enforce, such as the power to approve the expansion of easements and the power to disregard existing contracts with land owners, suggesting tree trimming not only on, but along ROWs when this may not be included in some legacy agreements.*

*The SAR also seeks to choose specific clearance standards or to rush to develop new standards for clearances. Such standards may be inappropriate or less than optimal considering local terrain, the physical line design considerations, the configurations, forces and factors that are relevant to a particular line. The choice of such standards and/or the rush to develop new ones may retard the incorporation of new technologies and their benefits to the detriment of ratepayers.*

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments:

*Refer to the last paragraph of comments on Question 2.*

*The setting of, endorsement of, or requirement of such technical engineering standards is not appropriate to NERC. The creation and maintenance of such standards should remain the domain of appropriate scientific and engineering organizations, for instance, NESC, whose interest is in the safety of the public, whose members are qualified to determine design parameters appropriate to ensure that safety and who are qualified to evaluate the need to develop new standards as technology progresses. The Transmission Owner's designers should choose the standards that are appropriate for a particular line. Without such flexibility, imprudent, unnecessary expense could result in designs that benefit a few but are paid for by all retail and wholesale customers.*

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments:

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments:

*All Transmission Owners should have a budget for vegetation management because keeping the ROW clear is an appropriate goal. However, it should be sufficient that a budget for Vegetation Management exists. The dollar amount of that budget or the actuals spent is not a direct or adequate measure of the success of controlling vegetation and any comparison between utilities would be without value because the variation in the landmass covered, the terrain, the types of trees and vines, weather and weather-related events and the cost of contracts and equipment make the needs of each utility unique.*

*Moreover, funding for vegetation management should not be considered in isolation from the overall maintenance and capital funding of the Transmission System and that of an integrated utility. The ultimate goal of the standard is reliability and the reliability of the system should not be encumbered or compromised by dedicating or making untouchable or inflexible the budget of one element that contributes to the overall reliability of the system. Funding should be prioritized to serve the capital and maintenance projects that preserve and enhance the integrity of the system. Management should remain responsible for managing shifts in the budget to meet priorities that will vary with time and circumstance. There may be times that less money for vegetation is required due to drought or more is required due to heavy rainfall or storms. There may be circumstances in which a substantial investment in replacement equipment, new technology or security will yield more reliable service to the customer. Regulatory mechanisms to include or disallow expenditures from consideration in the utility's rate bases are already in place. To add a layer of obligation and rigidity to the budgeting process, as the inclusion of funding discussions points to, would be counter-productive and self-defeating to the reliability of the Transmission Systems.*

6. How would you recommend a transmission vegetation management standard be implemented after approval?

Comments:

*Through the Regional Reliability organizations*

7. Do you have any other comments on this SAR?

Comments:

**GENERAL Comments**

*The layout of the SAR and the section titles should be reconsidered so that the scope of each of the sections is clear. For instance, there is a section on "New Line Design" but no comparable discussion of existing faculties and easements, only "Ongoing Transmission Vegetation Management Operations" which does not contain a parallel discussion. It is clear from EEI conference calls that this has confused more than one reviewer.*

**Page: SAR-2**

Second paragraph (Purpose)

...and minimizing outages from vegetation located adjacent to the ROW, maintaining safe clearances between transmission lines and vegetation on and along transmission rights-of-way, *(add) in accord with existing ROW agreements, ...*

*Utilities have legacy agreements which restrict the rights the Transmission Owners have and these should be recognized and honored by any new standard.*

**Page: SAR-5**

NEW Line Design:



Change paragraph 1 to read:

A transmission owner shall **review its routing decision for new transmission lines to consider current and expected vegetation growth and encroachment. Definition of the appropriate ROW width shall be determined in the design stage of a new transmission facility. Delete the rest.**

*The previous language calling for “demonstration” of vegetation consideration when lines are designed is unreasonable. Because vegetation management is one of the most controllable factors, it is therefore, is one of the least important factors in choosing a line route for which court and/or State commission and community approval can be obtained. As Version 1 is written the demonstration of consideration in the design phase will produce records that add no value to the design process.*

Add this phrase to paragraph 2 to read:

Replace “Easement documents should clearly...” with “**Future** easement documents should clearly”

*While the context of the statement is “New Line Construction” it could be clarified with the addition of the word future.*

Last bullet “Schedules” change it to read:

The schedule should be based on the threshold of need established from inspections and flexible enough to adjust to **business drivers, external drivers, and** naturally influenced...”

*Scheduling must be flexible enough to recognize the business drivers, community drivers, regulatory, government agency and other external drivers. To schedule based only on factors driven by nature would not allow managers the flexibility to alter the schedules in order to manage the customers’, the communities’ or the regulators’ needs. Should all external drivers adopt vegetation management as the priority, the business drivers would then follow and fall in line behind. The SAR, written on the topic of vegetation management will be more effective if the other drivers are recognized and accommodated.*

**SAR-6**

Change paragraph 2 Mitigation to read:

Mitigation—**The vegetation management program shall identify ROW areas that do not meet the transmission owner’s minimum standards for vegetation management. Delete the rest.**

*The right to achieve changes in the width of easements is a right that is vested primarily in the States, their courts and their agencies. Including a demand to produce a process to achieve clearances consistent with standards within a NERC (or regional) standard imposes an unenforceable provision.*

Delete paragraph 2 Clearance Standards:

*Refer to the comment to Question 3 above. Setting, endorsing, or requiring particular technical engineering standards is not appropriate to NERC. Such standards should remain in the domain with the appropriate science and engineering organizations like NESC, and the Transmission Owner’s own design groups whose interest is in the safety of the public, whose members are*

*qualified to determine design parameters appropriate to ensure safety. These groups can also evaluate needs for and develop new standards as technology progresses.*

Regional Outage Reporting Plan for Voltages 200 kV and Above,

Compliance Measures, bullet 2 Field Audits

*Who will perform these field audits and measurements and verify the conditions at the time of the measurement?*

Compliance Measures, bullet 3 Self-certification

*The Self-Certification section follows immediately after the field audit section that states “Clearances shall be measured between vegetation and energized conductor on transmission lines selected for inspection and adjusted for actual line loading, ambient temperature, and wind conditions compared to design data.” This seems to imply that the Transmission Owner will be held responsible for self-certifying and verifying that all such clearances have been similarly measured under known parameters. If the initiation of such a program is intended as part of the SAR and of the self-certification, such a requirement should be clearly stated.*

**SAR-7**

Compliance Measures, top of the page

*The annual work plan should allow flexibility for acts of God and other extenuating circumstances*

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**Committer Information (For Individual Commenters)**

Name: Ed Riley

Organization: CAISO

Industry Segment #: 2

Telephone: (916) 351-4463

E-mail: eriley@caiso.com

Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
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*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments:

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

Comments: This SAR provides appropriate consistency at a high level that will benefit interconnected areas.

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments: In the absence of local standards, a standard is necessary. If a federal standard is considered, it should take into consideration area standards that have already been established, proved to be effective and avoid the development of conflicting standards.

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments: The California Public Utilities Commission sets minimum clearances that Utilities must comply with (General Order 95). The California Department of Forestry has clearance standards during certain portions of the year for fire safety. We believe these standards have driven Vegetation Management programs that have been effective in maintaining grid reliability. **However**, one area that has not been addressed are requirements to keep fuel loads under lines low (r/w reclamation), so that substantial damage to Transmission Lines due to excessive heat is avoided should wild fires burn through rights of way.

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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Comments: Any new standards should allow for a compliance transition period due to the time it takes to inspect, budget for and trim to new clearance requirements.

6. How would you recommend a transmission vegetation management standard be implemented after approval?

X Comments: Any new standards should allow for a compliance transition period due to the time it takes to inspect, budget for and trim to new clearance requirements.

7. Do you have any other comments on this SAR?

X Comments: The CAISO already monitors compliance of the Utilities to their vegetation management programs through an annual Maintenance Audit process and monitoring of forced outages. If Regional Reliability Councils assume these responsibilities, duplication may exist depending on the scope and detail of the Regional Reliability Council Compliance Process.

Note – This form is to comment on Version 1 of the “**Transmission System Vegetation Management**” SAR.

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E-mail this form between May 20 and June 21, 2004 to: [sarcomm@nerc.com](mailto:sarcomm@nerc.com) with “Comments” in the subject line.

If you have any questions about this Standards Draft Comment Form, please contact the Director of

**Background:**

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***Please review Version 1 of the SAR and complete this Comment Form to provide feedback to the SAR Drafting Team on the development of a Transmission System Vegetation Management Standard.***

**Commenter Information (For Individual Commenters)**

Name: Fred Heizer  
 Organization: Ohio Public Utilities Commission  
 Industry Segment #:9  
 Telephone: 614.644.7692  
 E-mail: Fred.Heizer@puc.state.oh.us

- Key to Industry Segment #'s:
- 1 – Trans. Owners**
  - 2 – RTO's, ISO's, RRC's**
  - 3 – LSE's**
  - 4 – TDU's**
  - 5 - Generators**
  - 6 - Brokers, Aggregators, and Marketers**
  - 7 - Large Electricity End Users**
  - 8 - Small Electricity Users**
  - 9 - Federal, State, and Provincial Regulatory or other Govt. Entities**

**STD Commenter Information (For Groups Submitting Group Comments)**

Name of Group: \_\_\_\_\_ Group Chair: \_\_\_\_\_ Chair Phone: \_\_\_\_\_  
 Chair Email: \_\_\_\_\_

**List of Group Participants that Support These Comments:**

| Name | Company | Industry Segment # |
|------|---------|--------------------|
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments: All electrical transmission lines should be required to maintain specific clearances similar to Table 234-1 in ANSI's National Electrical Safety Code, NESC 232. In fact there may already be precedence for clearance between transmission lines and trees under NESC 232. The clearances listed in NESC 232 provide for clearances of live parts above ground. Trees should be consider a ground.

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

Comments:

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments: The Ohio Public Utilities Commission requires, as part of its rules for safe and reliable service, that utility companies follow the standards set out in the National Electric Safety Code. We feel all high voltage electric lines, including transmission lines, should be required to follow national standards to provide safe and reliable service.

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments: The state of Ohio does not currently have a clearance standard for transmission lines. The state currently requires companies to follow the standards listed in the National Electric Safety Code. However, these standards do not include clearances for vegetation.

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments: All the companies in Ohio have vegetation management programs. Funding of these programs is included in the companies operating expense budget like other activities necessary to operate the system. Because some companies have separate transmission and distribution subsidiaries, the accounting for transmission and distributions vegetation management programs are separate. Distribution vegetation management and costs clearly comes under state jurisdiction. The funding of transmission vegetation management programs may or may not come under state jurisdiction. In any case, funding of vegetation management programs should come under operating expenses.

6. How would you recommend a transmission vegetation management standard be implemented after approval?

Comments: Ohio recommends that the Table 234-1 in ANSI's National Electrical Safety Code be expanded to include vegetation clearance. States then have the option of either adopting rules that require companies to comply with these standards, adopt specific rules that include vegetation clearance language or not adopt any rules that require companies to comply with vegetation clearances. The Vegetation Management Task Force already recognizes the importance of NESC in its proposal.

7. Do you have any other comments on this SAR?

Comments: The state believes that a vegetation clearance standard for transmission lines would help the state in evaluating service quality. Without such a standard we are left to define such a standard for each occurrence where there is an issue about service quality. We strongly recommend that the standard be developed for all voltage classes similar to the current NESC Table 234-1. Although there are many other causes of transmission line outages that occur far more often than trees in right-of-ways, it seems that an acceptable clearance between live parts to ground can be clearly defined for the higher voltage levels as it is for the lower voltage levels. How the companies maintain these clearance levels is up to them. Ohio has not in the past required companies to comply with NERC or ECAR standards. With the development of clear enforceable standards, Ohio may start to require companies to comply with such standards.

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***Please review Version 1 of the SAR and complete this Comment Form to provide feedback to the SAR Drafting Team on the development of a Transmission System Vegetation Management Standard.***

|  |                             |
|--|-----------------------------|
| <b>Commenter Information (For Individual Commenters)</b> |                             |
| Name:  | John Pinney                 |
| Organization:  | Progress Energy Corporation |
| Industry Segment #:                                      | 1                           |
| Telephone:   | (813) 920-7860              |
| E-mail:  | john.piney@pgnmail.com      |

|  |
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| Key to Industry Segment #'s:<br><b>1 – Trans. Owners</b><br><b>2 – RTO's, ISO's, RRC's</b><br><b>3 – LSE's</b><br><b>4 – TDU's</b><br><b>5 – Generators</b><br><b>6 – Brokers, Aggregators, and Marketers</b><br><b>7 – Large Electricity End Users</b><br><b>8 – Small Electricity Users</b><br><b>9 – Federal, State, and Provincial</b> |
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| <b>STD Commenter Information (For Groups Submitting Group Comments)</b> |                     |                           |
|---|---------------------|---------------------------|
| <b>Name of Group:</b>   | <b>Group Chair:</b> | <b>Chair Phone:</b>       |
|   | <b>Chair Email:</b> |                           |
| <b>List of Group Participants that Support These Comments:</b>          |                     |                           |
| <b>Name</b>   | <b>Company</b>      | <b>Industry Segment #</b> |
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments: There should also be laws or statutes that support our efforts

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

Comments:

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments:

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments: I believe the owner should submit his standards for approval. If there are issues they should be discussed and resolved. With regional differences the cost of a standard to one utility may be double to another in another region. My main issue would be legal authority and the ability to enforce standards with support from governing authorities.

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments:

6. How would you recommend a transmission vegetation management standard be implemented after approval?

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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Comments: It should be implemented by the owner after resolution of issues only. This should be followed up with audits and documentation. There should be a representative to work with the utility to regulate and monitor the standards. There should also be a secure website to provide the utility a location to enter program status and completions in a standard format approved by both parties.

7. Do you have any other comments on this SAR?

Comments: Support for the standards needs to be law. The biggest problem in maintaining ROW's are customer, environmental groups and municipal ordinances that make the efforts difficult and more costly. With support and the proper legal authority the standards would be easier to enforce and more economical to enforce.

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If you have any questions about this Standards Draft Comment Form, please contact the Director of

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***Please review Version 1 of the SAR and complete this Comment Form to provide feedback to the SAR Drafting Team on the development of a Transmission System Vegetation Management Standard.***

**Commenter Information (For Individual Commenters)**

Name: David S. Morrell

Organization: NYS Dept of Public Service

Industry Segment #: 9

Telephone: 518-486-7322

E-mail: david\_morrell@dps.state.ny.us

**Key to Industry Segment #'s:**

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users
- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

**STD Commenter Information (For Groups Submitting Group Comments)**

**Name of Group:**

**Group Chair:**

**Chair Phone:**

**Chair Email:**

**List of Group Participants that Support These Comments:**

| Name | Company | Industry Segment # |
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments:

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

Comments:

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments:

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments: Each New York jurisdictional utility has vegetation clearance standards listed in their NYS PSC approved ROW vegetation management plan by Kv class. These standards are referred to as wire security zones. These standards vary by company but in some cases are the same.

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments: Funding of prudent and effective vegetation management programs is important and needs to be supported by the State Regulatory Commissions pursuant to various program parameters, scope and objectives including reliability. While a comparison of budgeted to expended dollars might be valid as one of several program measures it is noteworthy to point out that levels of financing and final budgetary expenditure approval rests with the State

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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Regulatory Agencies.

6. How would you recommend a transmission vegetation management standard be implemented after approval?

Comments:

7. Do you have any other comments on this SAR?

Comments: Page 6 & 7 re: Periodic Reporting of Vegetation Outages and all Audit Reports etc. To effectively support the utilities Row vegetation management programs where applicable, State Regulatory Commissions should receive copies of all reporting information in addition to NERC, Planning Authorities and Reliability Authorities.

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E-mail this form between May 20 and June 21, 2004 to: [sarcomm@nerc.com](mailto:sarcomm@nerc.com) with “Comments” in the subject line.

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***Please review Version 1 of the SAR and complete this Comment Form to provide feedback to the SAR Drafting Team on the development of a Transmission System Vegetation Management Standard.***

**Commenter Information (For Individual Commenters)**

**Name: MAPP Regional Reliability Council,  
assisted by the MAPP Operating  
Subcommittee (members listed below)**

Organization:

Industry Segment #:

Telephone:

E-mail:

Key to Industry Segment #'s:

- 1 – Trans. Owners**
- 2 – RTO's, ISO's, RRC's**
- 3 – LSE's**
- 4 – TDU's**
- 5 - Generators**
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- 7 - Large Electricity End Users**
- 8 - Small Electricity Users**
- 9 - Federal, State, and Provincial  
Regulatory or other Govt. Entities

| STD Commenter Information (For Groups Submitting Group Comments)   |                                |                    |
|--|--------------------------------|--------------------|
| Name of Group: MAPP Regional Reliability Council, assisted by the MAPP Operating Subcommittee (members listed below) | Group Chair:<br>Chair Email:   | Chair Phone:       |
| List of Group Participants that Support These Comments:  |                                |                    |
| Name   | Company                        | Industry Segment # |
| Darrick Moe  | WAPA                           | 2                  |
| John Swanson   | Nebraska Public Power District | 2                  |
| Paul Koskela   | Minnesota Power                | 2                  |
| Larry Larson   | Otter Tail Power               | 2                  |
| Dick Pursley   | Great River Energy             | 2                  |
| Martin Trencé  | Xcel Energy                    | 2                  |
| Todd Gosnell   | Omaha Public Power District    | 2                  |
| Robert Coish   | Manitoba Hydro                 | 2                  |
| Joe Knight   | MAPPCOR                        | 2                  |
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

- Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments:

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

Comments:

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments: The clearance standards should be minimum safety requirements plus an additional safety factor to account for various weather conditions.

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments: Not aware of any specific clearance standards so a copy can not be provided. Suggest a clearance standard of the minimum wire zone plus ten feet.

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments:

6. How would you recommend a transmission vegetation management standard be implemented after approval?

Comments: Annual self certification of facilities 230 kV and above and facilities 100 kV and above that have a major impact on regional reliability as defined by the Region. Self certification should include the results of the most recent aerial and/or ground inspection and note any vegetation management issues that need to be addressed, and the subsequent action plan to remedy the reported vegetation issue(s). Spot audits should be performed by the Region on entities that have filed vegetation-related outage reports to insure that the entity is complying with their stated vegetation management program. Audits should include field visits and any aerial surveys done on the reported facility.

7. Do you have any other comments on this SAR?

**Comment Form for Version 1 of “Transmission System Vegetation Management” SAR**

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Comments: FERC has recently required companies to file information about vegetation management. Any future reporting/filing requirements between this Standard and FERC should be made to conform, so that the industry doesn't need to capture the same data in two different formats.

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***Please review Version 1 of the SAR and complete this Comment Form to provide feedback to the SAR Drafting Team on the development of a Transmission System Vegetation Management Standard.***



|  |
|--|
| <b>Commenter Information (For Individual Commenters)</b> |
| Name: John Tamsburg                                      |
| Organization: Florida Power & Light Company              |
| Industry Segment #: 1                                    |
| Telephone: 1-561-694-3975                                |
| E-mail: John_Tamsburg@fpl.com                            |

|  |
|--|
| Key to Industry Segment #'s:<br><b>1 – Trans. Owners</b><br><b>2 – RTO's, ISO's, RRC's</b><br><b>3 – LSE's</b><br><b>4 – TDU's</b><br><b>5 - Generators</b><br>6 - Brokers, Aggregators, and Marketers<br><b>7 - Large Electricity End Users</b><br><b>8 - Small Electricity Users</b><br>9 - Federal, State, and Provincial<br>Regulatory or other Govt. Entities |
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| <b>STD Commenter Information (For Groups Submitting Group Comments)</b> |
|---|

|                       |                     |                     |
|-----------------------|---------------------|---------------------|
| <b>Name of Group:</b> | <b>Group Chair:</b> | <b>Chair Phone:</b> |
|                       | <b>Chair Email:</b> |                     |

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| <b>List of Group Participants that Support These Comments:</b> |
|--|

| <b>Name</b> | <b>Company</b> | <b>Industry Segment #</b> |
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments:

The standard for transmission system vegetation management should not be a newly created standard.

Instead, the wording & tables used in the National Electric Safety Code (NESC) should be strengthened and include more specific tables in rule 218. The National Electric Safety Code (NESC) is already a nationally developed standard for safe operations of electrical systems. The NESC is often used / adopted at the state and local levels.

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

Comments:

Overall exception to SAR proposal. The standard for transmission vegetation management should not be a newly created standard. Instead, wording & tables should be strengthened within current national standards (such as the NESC).

Itemized exceptions to the SAR proposal are listed in the comments on question #7.

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments:

Agree. Minimum clearance standards are necessary for transmission vegetation management program. However, these clearances can be interpreted from the National Electric Safety Code (NESC) rule 232. The wording in NESC (rule 218) should be strengthened and provide a national table for these minimum clearance requirements.

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments:

The appropriate standard and location for this standard should reside in the National Electric Safety Code (rule 218).

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments:

Disagree. Feel that safety, reliability and system performance are the essential components of a vegetation management work plan.

6. How would you recommend a transmission vegetation management standard be implemented after approval?

Comments:

The transmission vegetation management standard should be implemented in the National Electric Safety Code. The wording should be strengthened and include more specific tables in rule 218. The National Electric Safety Code (NESC) is already a nationally developed standard for safe operations of electrical systems. The NESC is often used / adopted at the state and local levels.

7. Do you have any other comments on this SAR?

Comments:

Overall objections to the SAR proposal and approach for creating a vegetation management standard.

Detailed exceptions listed below

- a. In the funding section of the annual work plan, the first sentence is good as shown. The general comments from the Vegetation Management Task Force should be removed. This entire section should be looked at very closely. The concern is that it conflicts between national, state, and local areas of control. Operating expenditures, such as vegetation, are regulated at the state level. The Vegetation Management Task Force recognizes "that funding is not a typical element of a NERC standard". Assume the Task Force recognizes the conflict here.

- b. Under clearance standards, the SAR proposal states "each transmission owner shall establish and document acceptable clearances ....". This approach could lead to multiple, inconsistent clearance establishments. Acceptable clearances should be implemented nationally in established national standard that is already used & adopted at the state & local levels. Rule 218 of the National Electric Safety Code (NESC) should be to strengthen and provide specific tables for transmission voltages greater than 230kV.
- c. Under personnel qualifications, take exception to the entire section. Personnel qualifications are already address in other national standards including OSHA.
- d. Under periodic reporting of outages, take exception to reporting "all vegetation related outages on transmission circuits 200 kV and higher". Reporting should only be done for transmission lines designated by the RRC to be critical to the reliability (system stability) of the electrical system.
- e. The communications section should be re-evaluated and considered for removal. Two concerns with this section are (a) how it fits into the overall purpose as defined by the SARs report and (b) the vague wording, such as "imminent threat", included in this section. If the communications section remains, suggest the wording be similar to the following:  

"The transmission owner shall establish and document a communications procedure for reporting vegetation concerns within rights-of-way containing one or more transmission lines of voltage 230 kV or higher."
- f. Under compliance measures, the performance measurement section should be re-evaluated and considered for removal for the SARs report. Before a matrix is developed, a clear definition of what constitutes a "vegetation outage" should be developed with the industry. Further, there is some concern is that periodic reporting of vegetation outages may not be an effective metric to assess compliance. Different levels of importance are placed on thorough outage investigation and root cause analysis. As worded in the SAR, a utility will be penalized for thoroughly follow-up on all outage events, for having experience for determine root cause analysis, and for having a low number of "unknown" caused outage events. Where-as another utility with a very high number of "unknown" caused events and a low number of reported vegetation events shall not be penalized, even though a large number of "unknown" events could be in reality vegetation related.
- g. Under compliance measures, the field audit section should be re-evaluated and considered for removal. The concern with this section is the practicality of performing clearance measurement audits as defined in this section.
- h. In general, NERC should reevaluate its approach to vegetation management. Instead of setting standards on legal and local issues such as rights-of-way and easements, it should adopt (or suggest modifications to) already nationally recognized ANSI and NESC clearance standards and transmission owners the legal/regulatory flexibility to use easements or other methods to comply with the ANSI, NESC standards. For example, the section "New Line Design" should focus on the transmission owner meeting the ANSI, NESC standards and not mandating, suggesting or otherwise imposing requirements on the rights-of-way and easements. These issues are inherently local and there is no practical or legal way for NERC to impose legal requirements on local permitting agencies or the transmission owners attempting to obtain permission from these agencies. Again, what is important is the clearance standard not the legal or regulatory manner in which the transmissions owner meets the clearance standard.

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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- i. How a transmission provider inspects its lines should be developed on a regional basis given the different environment of each region and should not be dedicated by NERC on a national basis.
- j. NERC should proceed with re-writing its SARs standards and reporting requirements through a coordinated regional effort with FERC, DOE, states, transmission owners to adopt NESC, ANSI standards. NERC should work with its regional councils on the SARs, because vegetation management differs dramatically from region to region.

Note – This form is to comment on Version 1 of the “**Transmission System Vegetation Management**” SAR.

The latest version of this SAR (Transmission System Vegetation Management) is posted on the Standards web site at: [ftp://www.nerc.com/pub/sys/all\\_updl/standards/sar/Trans\\_Sys\\_Veg\\_Mgt\\_SAR\\_V1\\_052004.doc](ftp://www.nerc.com/pub/sys/all_updl/standards/sar/Trans_Sys_Veg_Mgt_SAR_V1_052004.doc)

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***Please review Version 1 of the SAR and complete this Comment Form to provide feedback to the SAR Drafting Team on the development of a Transmission System Vegetation Management Standard.***

|  |                                |
|--|--------------------------------|
| <b>Commenter Information (For Individual Commenters)</b> |                                |
| Name:  | Ken Goldsmith                  |
| Organization:  | Alliant Energy                 |
| Industry Segment #:                                      | 1                              |
| Telephone:   | 319-786-4167                   |
| E-mail:  | kengoldsmith@alliantenergy.com |

|   |
|---|
| Key to Industry Segment #'s:<br>1 – Trans. Owners<br>2 – RTO's, ISO's, RRC's<br>3 – LSE's<br>4 – TDU's<br>5 - Generators<br>6 - Brokers, Aggregators, and Marketers<br>7 - Large Electricity End Users<br>8 - Small Electricity Users<br>9 - Federal, State, and Provincial<br>Regulatory or other Govt. Entities |
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|---|---------------------|---------------------------|
| <b>STD Commenter Information (For Groups Submitting Group Comments)</b> |                     |                           |
| <b>Name of Group:</b>   | <b>Group Chair:</b> | <b>Chair Phone:</b>       |
|   | <b>Chair Email:</b> |                           |
| <b>List of Group Participants that Support These Comments:</b>          |                     |                           |
| <b>Name</b>   | <b>Company</b>      | <b>Industry Segment #</b> |
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments: Alliant Energy agrees with the need for a Vegetation Management (VM) standard for transmission, however we believe that it is important that this standard be developed taking into consideration state and regional differences. The goal of the standard should be to create a set of flexible criteria that will allow each transmission owner to control the vegetation on their right-of-way in a manner appropriate to the environment and local conditions of their service area.

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

Comments: A standard should be developed to ensure that vegetation is managed by every transmission owner. The objective of the standard should be to ensure that transmission owners have VM programs in place that can control and manage vegetation and allow transmission owners the latitude to do so in a responsible and responsive manner.

The standard must not impose obligations on transmission owners that they may not be unable to change or enforce, such as the expansion of easements and the changing of existing contracts with landowners, which may prescribe the method and type of tree trimming and clearing. The standard should allow the transmission owner flexibility in their VM program with respect to local terrain, the physical line design and configuration, work force management and factors that are relevant to a particular line.

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments: As NERC seeks to define acceptable clearances for VM programs it should seek to work with industry experts to determine appropriate distances for clearances between vegetation and energized conductors.

Regional, State, Local, and tribal governmental agencies trimming ordinances/codes need to be factored in these established clearance standards, allowing for existing conditions to be grandfathered. Local ordinances have the potential to conflict with prescribed clearances, resulting in legal actions, delays to work, etc. Mandatory clearance standards, that do not consider the complexity of the issue, have the potential to increase VM program costs, without ensuring that the desired result of reducing outages is achieved.



**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments: See above. One appropriate National standard to consider is NESC 218.

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments: Alliant Energy believes that all transmission owners should have a budget for vegetation management because keeping the ROW clear is an appropriate goal. However, a standard based on performance and self-certification is appropriate where as incorporating budget considerations into a standard would be overly prescriptive.

Funding levels are, and should be, driven by the appropriate balance of program elements required to meet the reliability objective of minimizing vegetation outages. The dollar amount of a VM budget is not a direct or adequate measure of the success of controlling vegetation and any comparison between utilities would be without value because the variation in the landmass covered, the terrain, the types of trees and vines, weather and weather-related events, and the cost of contracts and equipment make the needs of each utility unique.

6. How would you recommend a transmission vegetation management standard be implemented after approval?

Comments: The NERC Regional Reliability Councils should implement and enforce the standard.

7. Do you have any other comments on this SAR?

Comments:

**Voltage Level**

In the "Purpose" section of the SAR, the 100kV threshold of applicability is in conflict with the previously established 200kV criterion for compliance reporting and what was required in the FERC April 19, 2004 Transmission Vegetation Management Practices order, which is "230 kV or higher, tie-line interconnection facilities between control areas or balancing authorities (regardless of kV rating) and "critical" lines as designated by the regional reliability council". Additionally, the phrase "lines . . . over which NERC has oversight" is confusing. Alliant Energy recommends that the criterion remain at 200kV (and for critical circuits at lower voltages).

**Personnel Qualifications**

Clarification should be added to remove any suggestion that executive management levels would require vegetation qualifications or certification, and only focus on the employees that deal with VM as part of their normal job. Transmission owners and contract employees utilized in a vegetation

management program shall have appropriate qualifications to perform the required work as determined by the transmission owner.

**Schedule**

Scheduling must be flexible enough to recognize the business drivers, community drivers, regulatory, government agency, tribal governmental agencies and other external drivers. To schedule based only on factors driven by nature would not allow managers the flexibility to alter the schedules in order to manage environmental factors, the customers', the communities' or the regulators' needs.

**Mitigation**

The right to achieve changes in the width of easements is a right that is vested primarily in the States, their courts and their agencies. Including a requirement for a transmission owner to “achieve appropriate clearances” for existing easement creates an overly burdensome requirement that may never be achievable. The focus should not be on changing the ROW width but on maintaining an appropriate clearance which may require trimming more frequently.

**Outage Reporting**

Outage reporting is a critical element of the standard, and it is the appropriate measure for determining the effectiveness of programs. However, several issues will need to be addressed before the existing reporting can be used to accurately assess VM program effectiveness:

- 1) Avoidable and unavoidable categories (Storm related vegetation outages; “public interference” such as logging operations, etc.). The purpose should be to capture those outages that are attributable to the VM program;
- 2) The difference between growth and non-growth related outages;
- 3) Accuracy and consistency of outage identification;
- 4) Outage reporting should also reflect exposure... e.g., normalizing the number of outages by the miles of line.
- 5) Reporting process need to be defined.

**Compliance Measures - Self-certification**

The Self-Certification section states “Clearances shall be measured between vegetation and energized conductor on transmission lines selected for inspection and adjusted for actual line loading, ambient temperature, and wind conditions compared to design data.” This seems to imply that the transmission owner will be held responsible for self-certifying and verifying that all such clearances have been similarly measured under known parameters. If the initiation of such a program is intended as part of the standard and of the self-certification, such a requirement should be clearly stated. Alliant Energy favors a standard based on maintaining a minimum clearance between trees and energized conductors at all times, with this minimum clearance determined regionally/locally based on knowledge of local vegetation types and growing conditions.

**Compliance Measures – Performance**

The SAR suggests the standard’s Periodic Reporting of Outages will include an effective metric to assess compliance goals. Assuming that eliminating vegetation-related outages is the desired outcome, the metric should include a comprehensive accounting of each transmission owner’s annual line-tree ground fault incidents and each owner’s overall compliance with the new standard. The new metric should excuse fire or force majeure damages involving trees and transmission lines that otherwise met the new standard’s requirements.

**ROW and Easement Documents**

Since no two easements are identical, any new standard should: recognize the complexity of negotiating new vegetation management rights and should allow for some flexibility while still strive for the overall goal of eliminating vegetation-related outages, and recognize or memorialize existing rights-of-way agreements.

**Meeting with Federal Land Agencies**

Alliant Energy recommends that as part of the standard development process that the standard writing team meet with key people in the various Federal Land agencies and FERC staff to discuss the many ROW issues associated with transmission lines crossing Federal Lands.

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|  |
|--|
| <b>Committer Information (For Individual Commenters)</b> |
| Name: P.D. Henderson                                     |
| Organization: IMO  |
| Industry Segment #: 2                                    |
| Telephone: 905 855-6258                                  |
| E-mail: peter.henderson@theIMO.com                       |

|   |
|---|
| <p>Key to Industry Segment #'s:</p> <p><b>1 – Trans. Owners</b><br/> <b>2 – RTO's, ISO's, RRC's</b><br/> <b>3 – LSE's</b><br/> <b>4 – TDU's</b><br/> <b>5 - Generators</b><br/>         6 - Brokers, Aggregators, and Marketers<br/> <b>7 - Large Electricity End Users</b><br/> <b>8 - Small Electricity Users</b><br/>         9 - Federal, State, and Provincial<br/>         Regulatory or other Govt. Entities</p> |
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| <b>STD Commenter Information (For Groups Submitting Group Comments)</b> |                     |                           |
|---|---------------------|---------------------------|
| <b>Name of Group:</b>   | <b>Group Chair:</b> | <b>Chair Phone:</b>       |
|   | <b>Chair Email:</b> |                           |
| <b>List of Group Participants that Support These Comments:</b>          |                     |                           |
| <b>Name</b>   | <b>Company</b>      | <b>Industry Segment #</b> |
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments:

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

Comments:

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

Comments: A minimum standard is necessary where more effective local standards do not exist.

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments: Will provide later if available.

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments: Funding is part of vegetation work program, but this should not be part of the standard.

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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6. How would you recommend a transmission vegetation management standard be implemented after approval?

Comments: Since vegetation programs should already exist, transmission owners should have between six months to a year to become fully compliant.

7. Do you have any other comments on this SAR?

Comments:

There are two editorial observations:

1. On page 2, first paragraph shall read 200 kV and higher to be consistent with the rest of the SAR.
2. On page 6, the heading shall read "Regional Outage Reporting Plan" to leave open the possibility to include facilities lower than 200 kV.

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***Please review Version 1 of the SAR and complete this Comment Form to provide feedback to the SAR Drafting Team on the development of a Transmission System Vegetation Management Standard.***



**Commenter Information (For Individual Commenters)**

Name:

Organization:

Industry Segment #:

Telephone:

E-mail:

Key to Industry Segment #'s:

- 1 – Trans. Owners**
- 2 – RTO's, ISO's, RRC's**
- 3 – LSE's**
- 4 – TDU's**
- 5 - Generators**
- 6 - Brokers, Aggregators, and Marketers
- 7 - Large Electricity End Users**
- 8 - Small Electricity Users**
- 9 - Federal, State, and Provincial  
Regulatory or other Govt. Entities

| STD Commenter Information (For Groups Submitting Group Comments)                  |         |   |
|---|---------|---|
| Name of Group: Operating Reliability Working Group (ORWG)<br>Southwest Power Pool |         | Group Chair: Scott Moore<br>Chair Phone: 614-716-6600<br>Chair Email: spmoore@aep.com |
| List of Group Participants that Support These Comments:                           |         |   |
| Name  | Company | Industry Segment #  |
| Allen Ackland   | KCPL    | 1   |
| Bob Cochran   | SPS     | 1   |
| Mike Gammon   | KCPL    | 1   |
| Steve Hillman   | WPEK    | 1   |
| Robert Rhodes   | SPP     | 2   |
| John Schechter  | AEP     | 1   |
| John Scruggs  | KCPL    | 1   |
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

Yes

No

Comments:

While agreeing that a standard is needed, it should be flexible enough to allow for differences among systems and geographic areas.

**Comment Form for Version 1 of "Transmission System Vegetation Management" SAR**

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2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

Yes

No

X Comments:

The standard must not impose obligations on TOs that they may not be able to change or enforce, such as easements and existing contracts with landowners.

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

Yes

No

X Comments:

Standards should be restricted to minimum distances from energized conductors under any operating condition.

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

X Comments:

The proposed standard should take into account operating voltage and maximum operating conditions but should not prescribe cycle times or trimming frequencies. The standard should describe what's to be done rather than how to perform it.

SPP does not have a regional clearance standard.

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

X Comments:

The standard should be based on performance and self-certification. Incorporating budget considerations would be overly prescriptive.

6. How would you recommend a transmission vegetation management standard be implemented after approval?

**Comment Form for Version 1 of “Transmission System Vegetation Management” SAR**

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X Comments:

The NERC Regional Reliability Councils should implement and enforce the standard as part of their compliance management program.

7. Do you have any other comments on this SAR?

X Comments:

Clarification should be added to remove any suggestion that management levels would require any vegetation qualifications and should only focus on employees or contractors who perform vegetation maintenance. Such workers will have appropriate qualifications as determined by the Transmission Owner.

The ORWG recommends that the standard apply to transmission lines at 200 kV and higher (and for critical lines at lower voltages) rather than the 100 kV as proposed.

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**Commenter Information (For Individual Commenters)**

Name: Don Prien  
 Organization: Sacramento Municipal Utility District  
 Industry Segment #: 1  
 Telephone: 916-732-6010  
 E-mail: DPrien@SMUD.ORG

Key to Industry Segment #'s:

- 1 – Trans. Owners
- 2 – RTO's, ISO's, RRC's
- 3 – LSE's
- 4 – TDU's
- 5 - Generators
- 6 - Brokers, Aggregators, and Marketers
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- 8 - Small Electricity Users
- 9 - Federal, State, and Provincial Regulatory or other Govt. Entities

**STD Commenter Information (For Groups Submitting Group Comments)**

Name of Group: \_\_\_\_\_ Group Chair: \_\_\_\_\_ Chair Phone: \_\_\_\_\_  
 Chair Email: \_\_\_\_\_

**List of Group Participants that Support These Comments:**

| Name | Company | Industry Segment # |
|------|---------|--------------------|
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**Please Review Version 1 of the SAR and Answer the Following Questions**

*Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.*

1. Do you agree that there is a need for a transmission system vegetation management standard? If not, please comment.

- Yes  
 No  
 Comments

2. If your answer to (1) is Yes, do you support the concepts for a standard described in this SAR? If not, please comment.

- Yes  
 No  
 Comments: [We agree with the concepts, with the exceptions noted in the following questions.](#)

3. The Vegetation Management Task Force believes there should be a standard that defines acceptable clearances between vegetation and energized conductors, and this clearance standard should be the basis for any standard that is part of a transmission owner's vegetation management program. Do you agree that a clearance standard is necessary? If not, please comment.

- Yes  
 No

Comments: [California already has a standard clearance requirement. This is the minimum allowable distance between vegetation and energized conductors. The amount of additional clearance that the transmission line owners use to ensure that the vegetation does not get into this minimum clearance should be left to the owner. The owner is best able to identify the type of vegetation in the ROW and the growth rate. The owner also learns how much trimming the public and landowners will tolerate and how often the vegetation must be trimmed to keep the vegetation clearance.](#)

[If a tree is outside the ROW easement and threatens the transmission line, there must be language in the standard and enforcement provisions to allow time for the transmission owner to obtain permission or rights to trim or remove this tree or to mitigate the issue. These cases can take significant time to negotiate with the landowners to obtain this permission. It may be necessary to go through condemnation procedures to get the required permission or rights.](#)

[If the proposed standard minimum distance exceeds the current California regulations, there may be significant additional costs. The additional costs are due to renegotiating ROW easements and accelerating the planned trimming schedule to get into compliance and possibly ongoing costs for accelerated trimming costs.](#)

[In the COMPLIANCE MEASURES section, there is a requirement to physically measure the clearances between vegetation and the energized conductor on lines selected for inspection. It is not clear if this is a one-time or annual task. The costs of resurveying the transmission line to verify current conditions Vs design to ensure compliance with the new standard may be extremely expensive, if it is intended to be along the entire transmission line. Patrolling each line and noting vegetation clearances rather than trying to compare to design may obtain better reliability and compliance.](#)

4. If your answer to (3) was yes, please suggest an appropriate standard(s). If your organization, State, or Regional Reliability Council has such a clearance standard, please provide a copy or a reference to such a standard.

Comments: [California CPUC General Order 95; California Public Resources Code 4292 – 4296, title 14, California Code of Regulations Section 1250-1256.](#)

5. The Vegetation Management Task Force believes funding that is based on the scope of the vegetation management program and the objectives to be achieved by the program is an essential component of a vegetation management annual work plan. Do you agree with this concept? If not, please provide comments.

Yes

No

Comments: [While funding is a necessary component in vegetation management, the way each transmission line owner plans to obtain compliance may vary widely. The standard should not specify levels of funding. The standards should only require minimum distances to conductors. This will allow each owner to determine the best way to maintain this clearance and the funding levels required.](#)

6. How would you recommend a transmission vegetation management standard be implemented after approval?

Comments: [The standard should be issued by the regional reliability organizations where they exceed the state or local regulations. If the standard were to require larger clearances than currently required or maintained by transmission line owners, there should be a phased in implementation. If there is a requirement that all lines be re-surveyed for the implementation then this should be a phased in requirement as the surveying may be a time consuming and expensive effort. Resources, labor and contract services, may not be available to perform all of the required work if this is not phased in over several years.](#)

[The requirement for field audits must define who will be performing the field audit and who will pay for the audits. The standard must identify how often the field audits will be performed or what will trigger the field audit.](#)

7. Do you have any other comments on this SAR?

Comments:

**Page SAR-2**

Second Paragraph (Purpose)

[“maintaining safe clearances between transmission lines and vegetation on and along transmission rights-of-way \*\*\(ADD in accordance with existing ROW agreements\)\*\*, and establishing...”](#)

**Page SAR-5**

**New Line Design –Development of New Line Routes:** [It is not clear how a transmission owner would be able to demonstrate the routing decisions included consideration of vegetation growth and encroachment. Is it intended that this would be a self-certification statement in the project file? Or, would it mean that the plan and profile drawings would indicate the proposed vegetation management limits, ROW and easements? The development of the latter option would increase design costs and may result in delays of needed new transmission lines beyond the required](#)



energization date. The net result could be, not having required transmission lines while trying to meet this new standard.

New Line Design –ROW and Easement Documents: During the acquisition of the ROW easements, the landowners may not sell or agree to the vegetation requirements. The standard needs to allow exceptions or alternate methods to mitigate the possible vegetation danger trees.

### **Ongoing Transmission Vegetation Operations**

#### **Vegetation Management Program**

Understanding Work Load – This should be omitted from the standard. It would be required to perform the listed items to meet the goals of this standard. Every owner may have different methods to identify, plan, budget, perform, and audit the vegetation program. The intent of this standard should be to improve vegetation management and ultimately reliability of the transmission lines. It should not be restrictive in nature.

#### **Annual Work Plan**

Every transmission line owner may have different budgeting and planning processes. The intent of the standard should be to encourage these activities but should not be a requirement.

### **Page SAR-6**

#### **Periodic Reporting of Outages**

There needs to be a consistent set of reporting requirements for vegetation issues that need to be reported along with the minimum information required for the report. There should be a template available for this report. Information included should include if the cause was from vegetation within the ROW or outside the ROW. This information will help determine if the existing ROW's have sufficient width or if there are additional topographic issues that need to be addressed such as trees on cliffs above the transmission line outside of the ROW or easement.

#### **Compliance Measures**

Field audits that include measurements between “vegetation and energized conductor on transmission lines selected for inspection and adjusted for actual line loading, ambient temperature, and wind conditions and compared to design data” should be limited to those lines where there have been multiple vegetation-related problems or outages.

Define what triggers field audits or what schedule they will be performed on. Who will perform these field audits? Who will pay for these field audits?