

## Consideration of Comments

**Project Name:** 2010-07.1 Vegetation Management

**Comment Period Start Date:** 8/24/2015

**Comment Period End Date:** 9/28/2015

There were 24 sets of responses, including comments from approximately 18 different people from approximately 18 different companies representing 7 of the 10 Industry Segments as shown on the following pages.

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Director of Standards, [Howard Gugel](#) (via email) or at (404) 446-9693.

## Questions

1. **Do you agree that the scope and objectives of the SAR? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.**
2. **If you have any other comments on this SAR that you haven't already mentioned above, please provide them here:**

## The Industry Segments are:

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

1. Do you agree that the scope and objectives of the SAR? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.

<b>John Fontenot - Bryan Texas Utilities - 1 -</b>				
Selected Answer:		Yes		
<b>Tammy Porter - Oncor Electric Delivery - 1 - TRE</b>				
Selected Answer:		Yes		
<b>Michelle Amarantos - APS - Arizona Public Service Co. - 1 -</b>				
Selected Answer:		Yes		
<b>Andrew Puztai - American Transmission Company, LLC - 1 -</b>				
Selected Answer:		Yes		
<b>Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO</b>				
Group Name:		MRO-NERC Standards Review Forum (NSRF)		
<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>	
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6	
Amy Casucelli	Xcel Energy	MRO	1,3,5,6	
Chuck Lawrence	American Transmission Company	MRO	1	
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5	
Theresa Allard	Minnkota Power Cooperative, Inc.	MRO	1,3,5,6	
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6	
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6	
Jodi Jenson	Western Area Power Administration	MRO	1,6	

Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Shannon Weaver	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Brad Perrett	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

Selected Answer: Yes

**Answer Comment:** The NSRF agrees with the SAR to update Table 2 MVCD's with the EPRI findings.

**Response:** Thank you.

**Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP**

Selected Answer: Yes

**Molly Devine - IDACORP - Idaho Power Company - 1 -**

Selected Answer: Yes

**Randi Heise - Dominion - Dominion Resources, Inc. - 5 -**

Group Name: Dominion - RCS

Group Member Name	Entity	Region	Segments
Larry Nash	Dominion Virginia Power	SERC	1
Louis Slade	Dominion Resources, Inc.	SERC	6
Connie Lowe	Dominion Resources, Inc.	RFC	3
Randi Heise	Dominion Resources, Inc,	NPCC	5

Selected Answer: Yes

**Answer Comment:****Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC**

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Selected Answer: Yes

**Answer Comment:**

**Duke Energy agrees with the scope and objectives of the SAR which appear to align MVCD with the empirical data stemming from the EPRI study.**

**Response:** Thank you.**Randall Hubbard - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - FRCC,WECC,TRE,SERC**

Group Name: Southern Company

Group Member Name	Entity	Region	Segments
Robert Schaffeld	Southern Company Services, Inc.	SERC	1
John Ciza	Southern Company Generation and Energy Marketing	SERC	6
R. Scott Moore	Alabama Power Company	SERC	3
William Shultz	Southern Company Generation	SERC	5

Selected Answer: Yes

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

Selected Answer:

Yes

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

Group Name:

NPCC--Project 2010-07.1 Vegetation Management - FAC-003-3

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Rob Vance	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Robert Pellegrini	The United Illuminating Company	NPCC	1
Kathleen Goodman	ISO - New England	NPCC	2
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1

Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Jones	National Grid	NPCC	1

Selected Answer: Yes

#### Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Robert Hirschak	Cleco Corporation	SPP	1,3,5,6
Tara Lightner	Sunflower Electric Power Corporation	SPP	1
Bruce Dooley	Sunflower Electric Power Corporation	SPP	1
Kevin Giles	Westar Energy, Inc	SPP	1,3,5,6
James Nail	City of Independence, Missouri	SPP	3,5

Selected Answer: Yes

#### Answer Comment:

We agree with the scope and objective of the SAR. However, we would suggest to the drafting team to conduct a thorough evaluation of how the Gallet Equation was used in the previous calculation of the Minimum Vegetation Clearance Distance (MVCD) and current EPRI Study. We feel this evaluation will help develop a structural value for FAC-003 and ensure all concerns have been addressed in reference to the previous and future calculations for the gap factor.

**Response:** Thank you for your comment. The proposed standard is consistent with FERC Order No. 777, which states: "As we [FERC] stated in the NOPR, and adopt in the Final Rule, the application of the Gallet equation appears to be one reasonable method to calculate MVCD values."

Please reference the EPRI report filed on August 12, 2015 in FERC Docket No. RM12-4 ([link](#)) and the current FAC-003-3 Guideline and Technical Basis section for the MVCD of the FAC-003-3 standard for further information.

**Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC**

Selected Answer: Yes

**Richard Hoag - FirstEnergy - FirstEnergy Corporation - 1,3,4,5,6 - RFC**

Group Name: FE RBB

Group Member Name	Entity	Region	Segments
William Smith	FirstenergyCorp	RFC	1
Cindy Stewart	FirstEnergy Corp.	RFC	3
Doug Hohlbaugh	Ohio Edison	RFC	4
Robert Loy	FirstEnergy Solutions	RFC	5
Richard Hoag	FirstenergyCorp	RFC	NA - Not Applicable
Ann Ivanc	FirstEnergy Solutions	FRCC	6

Selected Answer: Yes

**Answer Comment:**

Yes, FE Energy Delivery -Transmission Vegetation Management agrees with the scope and objectives of the SAR.

As a result of testing conducted by EPRI, at NERC's request, the MVCD listed in Standard FAC-003-3 required to prevent a flashover and improve the reliability of the Bulk Power System (BPS) will need to be increased. The EPRI report determined "that the proposed minimum vegetation clearance distances (MVCD), based on a gap factor of 1.3, should be increased and the corresponding gap factor reduced to a more conservative value of 1.0." TVM clearances far exceed the new MVCD Table distances, therefore no objections or comments are necessary.

**Response:** Thank you.

**Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC**

Selected Answer: Yes

**Ben Engelby - ACES Power Marketing - 6 -**

Group Name: ACES Standards Collaborators - FAC-003 Project

Group Member Name	Entity	Region	Segments
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Shari Heino	Brazos Electric Power Cooperative, Inc.	TRE	1,5
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
Amber Skillern	East Kentucky Power Cooperative	SERC	1,3
Ginger Mercier	Prairie Power Inc.	SERC	1,3
Mohan Sachdeva	Buckeye Power, Inc.	RFC	4
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1

Selected Answer: Yes

**Answer Comment:** We support the changes to FAC-003, as they are aligned with the directives in FERC Order No. 777.

**Response:** Thank you.

**Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC**

Selected Answer: Yes

**2. If you have any other comments on this SAR that you haven't already mentioned above, please provide them here:**

**Michelle Amarantos - APS - Arizona Public Service Co. - 1 -**

**Answer Comment:**

APS agrees with the findings of the EPRI study and supports modifications to the gap factors of the Gallet equation.

**Response:** Thank you.

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

Group Name:

MRO-NERC Standards Review Forum (NSRF)

Group Member Name	Entity	Region	Segments
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Shannon Weaver	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Brad Perrett	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

**Answer Comment:**

Limit the FAC-003-4 modifications to the Table 2 MVCD update, only.

**Response:** Thank you. The SDT felt it appropriate to make other, non-substantive changes to the document that do not have an impact to the meaning of the standard.

**Randi Heise - Dominion - Dominion Resources, Inc. - 5 -**

Group Name: Dominion - RCS

Group Member Name	Entity	Region	Segments
Larry Nash	Dominion Virginia Power	SERC	1
Louis Slade	Dominion Resources, Inc.	SERC	6
Connie Lowe	Dominion Resources, Inc.	RFC	3
Randi Heise	Dominion Resources, Inc,	NPCC	5

**Answer Comment:**

Page 2 - under Detailed Description; Dominion suggests the last sentence which says; "The drafting team will be modifying the standard based on the final report, which is scheduled to be released in July 2015." be updated to reflect when the final report was released (July 2015 has past).

**Response:** Thank you. The SAR will be updated to reflect the final report publishing date. Click here for: [The final EPRI Report](#), which was published on July 21, 2015.

**Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC**

Group Name: NPCC--Project 2010-07.1 Vegetation Management - FAC-003-3

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Rob Vance	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10

David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Robert Pellegrini	The United Illuminating Company	NPCC	1
Kathleen Goodman	ISO - New England	NPCC	2
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Jones	National Grid	NPCC	1

**Answer Comment:**

On page 2 of the SAR the last sentence under Detailed Description reads:

“The drafting team will be modifying the standard based on the final report, which is scheduled to be released in July 2015.”

This sentence should be revised to reflect the actual release date of the final report (August 15, 2015 from the NERC Website).

NERC’s May 14, 2015 Industry Advisory FAC-003-3 Minimum Vegetation Clearance Distances (MVCD) refers to “alternating current system voltages...” Was any testing done for high voltage DC voltages? The report apparently refers to only AC voltages. The SAR should stipulate this. What is the intention for addressing HVDC clearances?

The SAR should address a flexible Vegetation Control Cycle based on historic vegetation inspections from each area.

**Response:** Thank you. The SAR has been updated to reflect the final report publishing date. Click here for: [The final EPRI Report](#), which was published on July 21, 2015.

The scope of the EPRI study did not include DC voltages. To-date there have been no stakeholder concerns associated with the MVCD for DC. Thus there is no intention to test DC values. The scope of the project also does not include addressing a flexible vegetation control cycle.

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Robert Hirschak	Cleco Corporation	SPP	1,3,5,6
Tara Lightner	Sunflower Electric Power Corporation	SPP	1
Bruce Dooley	Sunflower Electric Power Corporation	SPP	1
Kevin Giles	Westar Energy, Inc	SPP	1,3,5,6
James Nail	City of Independence, Missouri	SPP	3,5

**Ben Engelby - ACES Power Marketing - 6 -**

Group Name:

ACES Standards Collaborators - FAC-003 Project

Group Member Name	Entity	Region	Segments
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Shari Heino	Brazos Electric Power Cooperative, Inc.	TRE	1,5
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
Amber Skillern	East Kentucky Power Cooperative	SERC	1,3
Ginger Mercier	Prairie Power Inc.	SERC	1,3
Mohan Sachdeva	Buckeye Power, Inc.	RFC	4
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1

**Answer Comment:**

We would appreciate guidance regarding compliance with Table 2 in the interim while the proposed revisions of this SAR go through the development process and eventually approved by FERC and becomes enforceable. FAC-003-2 requires that the MVCDs utilize a gap factor of 1.3, which is the current enforceable standard. Is there going to be a change in compliance monitoring approaches prior to the issuance of FAC-003-4? Any additional information relating to the NERC Advisory and how it relates to compliance with the standard would be helpful.

Thank you for the opportunity to comment.

**Response: Thank you.** This comment is beyond the scope of the drafting team. Please see the industry advisory FAC-003-3 Minimum Vegetation Clearance Distances (MVCD), which was distributed on May 14, 2015.

End of Report