



NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

September 25, 2009

Ms. Kimberly Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.

Washington, D.C. 20426

**Re: NERC Notice of Penalty regarding Virginia Electric and Power Company, FERC
Docket No. NP09-_-000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty¹ regarding Virginia Electric and Power Company (VEPCO), NERC Registry ID NCR01214,² in accordance with the Federal Energy Regulatory Commission's (Commission or FERC) rules, regulations and orders, as well as NERC Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).³

This Notice of Penalty is being filed with the Commission because, based on information from SERC Reliability Corporation (SERC), SERC and VEPCO have entered into a Settlement Agreement in which VEPCO has agreed to the proposed financial penalty of one hundred thousand dollars (\$100,000) to be assessed to VEPCO, in addition to other actions to promote prospective compliance required under the terms and conditions of the Settlement Agreement, and to resolve all outstanding issues arising from a preliminary and non-public assessment resulting in SERC's determination and findings of the enforceable alleged violation of FAC-003-1 Requirement (R) 2 at issue in this Notice of Penalty. Accordingly, the alleged violation identified as NERC Violation Tracking Identification Number SERC200800143 is being filed in accordance with the NERC Rules of Procedure and the CMEP.

¹ *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards* (Order No. 672), III FERC Stats. & Regs. ¶ 31,204 (2006); *Notice of New Docket Prefix "NP" for Notices of Penalty Filed by the North American Electric Reliability Corporation*, Docket No. RM05-30-000 (February 7, 2008). See also 18 C.F.R. Part 39 (2008). *Mandatory Reliability Standards for the Bulk-Power System*, FERC Stats. & Regs. ¶ 31,242 (2007) (Order No. 693), *reh'g denied*, 120 FERC ¶ 61,053 (2007) (Order No. 693-A). See 18 C.F.R. § 39.7(c)(2).

² SERC Reliability Corporation confirmed that Virginia Electric and Power Company (listed on the Compliance Registry as "Virginia Electric and Power Company (DP, LSE, TO, TP)") was included on the NERC Compliance Registry on May 31, 2007 as a Transmission Owner and was subject to the requirements of NERC Reliability Standard FAC-003-1.

³ See 18 C.F.R. § 39.7(c)(2).

Statement of Findings Underlying the Alleged Violation

This Notice of Penalty incorporates the findings and justifications set forth in the Settlement Agreement executed as of January 15, 2009, by and between SERC and VEPCO, which is included as Attachment b. The details of the findings and basis for the penalty are set forth in the Settlement Agreement and herein. This Notice of Penalty filing contains the basis for approval of the Settlement Agreement by the NERC Board of Trustees Compliance Committee (NERC BOTCC). In accordance with Section 39.7 of the Commission's regulations, 18 C.F.R. § 39.7 (2007), NERC provides the following summary table identifying each alleged violation of a Reliability Standard resolved by the Settlement Agreement, as discussed in greater detail below.

Region	Registered Entity	NOC ID	NERC Violation ID	Reliability Std.	Req. (R)	VRF	Total Penalty (\$)
SERC	Virginia Electric and Power Company	NOC-85	SERC200800143	FAC-003-1	2	High	100,000

The purpose of Reliability Standard FAC-003-1 is to improve the reliability of the electric transmission systems by preventing outages from vegetation located on transmission rights-of-way (ROW) and minimizing outages from vegetation located adjacent to ROW, maintaining clearances between transmission lines and vegetation on and along the transmission ROW, and reporting vegetation related outages of the transmission systems to the respective Regional Entities and NERC.

FAC-003-1 R2 requires a Transmission Owner, such as VEPCO, to create and implement an annual plan for vegetation management work (Transmission Vegetation Management Plan or TVMP) to ensure the reliability of the system. The plan shall describe the methods used, such as manual clearing, mechanical clearing, herbicide treatment, or other actions. The plan should be flexible enough to adjust to changing conditions, taking into consideration anticipated growth of vegetation and all other environmental factors that may have an impact on the reliability of the transmission systems. Adjustments to the plan shall be documented as they occur. The plan should take into consideration the time required to obtain permissions or permits from landowners or regulatory authorities. Each Transmission Owner shall have systems and procedures for documenting and tracking the planned vegetation management work and ensuring that the vegetation management work was completed according to work specifications. FAC-003-1 R2 has a "High" Violation Risk Factor (VRF).

On June 13, 2008, VEPCO self-reported a possible violation of FAC-003-1 R1.2. SERC's Compliance Enforcement Staff reviewed VEPCO's self-report, the photographs VEPCO provided from the site where the tree contact occurred and VEPCO's answers to the detailed questionnaire SERC provided to VEPCO to determine that VEPCO's possible violation applied to FAC-003-1 R2, rather than FAC-003-1 R1.2.

According to the Settlement Agreement, SERC Compliance Enforcement Staff found VEPCO to be in violation of Reliability Standard FAC-003-1 R2, rather than FAC-003-1 R1.2, following a flashover and operation that occurred on June 6, 2008, at approximately 15:34, on VEPCO's

Yadkin-Landstown 230 kV transmission line.⁴ The flashover and operation was the result of vegetation located within the ROW associated with the line. The relay systems at both ends of the line operated properly to clear the initial fault in 5 cycles. The line automatically reclosed at both terminals and after 10 cycles the fault re-appeared. Both terminals properly cleared this second fault in 4 cycles. Both terminals then successfully “auto time” reclosed (Yadkin at 17 seconds and Landstown at 22 seconds) and the line remained in service thereafter. The total time of the momentary operation on the line was less than 18 seconds. The line was 37.3% loaded at the time of the momentary outage.

At approximately 16:00 on June 6, 2008, a VEPCO serviceman was dispatched to investigate the incident and found evidence of a flashover from the transmission line to a Bradford Pear tree growing in a VEPCO customer’s backyard. A Transmission Forester was dispatched. When he arrived on the scene, he reported that the conductor was approximately 6 feet from the top of the tree. The tree was approximately 32 feet tall and the line contacted the tree’s crown at a height of approximately 25 feet. The base of the tree was approximately 10 feet adjacent to the outermost conductor, near mid span. A chainsaw was used to remove the tree. At 23:51 on June 6, 2008, all work was completed to clear the vegetation that caused the flashover and momentary outage.

According to the Settlement Agreement, on July 15, 2008, SERC Compliance Enforcement Staff requested that VEPCO provide studies and line outage simulations that model the potential impact on the bulk power system from an outage of the Yadkin-Landstown 230 kV transmission line. Pursuant to SERC’s request, VEPCO prepared the requested studies and provided the results to SERC on July 18, 2008. All data confirmed that the momentary outage experienced on the line did not impact the bulk power system, and that a sustained outage would not affect the stability or security of the bulk power system, due to the physical location and local nature of the line. On August 22, 2008, SERC Compliance Enforcement Staff met with VEPCO representatives to review additional information related to the line outage. On November 4, 2008, SERC Compliance Enforcement Staff held a conference call with VEPCO to review facts surrounding the vegetation incident.

As a result of its detailed compliance assessment, SERC Compliance Enforcement Staff concluded that the facts and evidence supported a finding that VEPCO violated FAC-003-1 R2. Evidence showed that vegetation in the form of a Bradford Pear tree breached the Clearance 2 distance of 8 feet set in the TVMP to the point of the incidence of a momentary outage of the Yadkin-Landstown 230 kV transmission line. VEPCO’s failure to maintain its specified Clearance 2 distance within the Yadkin-Landstown 230 kV ROW is a violation of FAC-003-1 R2, because VEPCO did not implement its TVMP in a manner that took into account the anticipated growth of the Bradford Pear tree such that, in this case, a clearance of 8 feet between the energized, ungrounded conductor and the vegetation within the ROW was not maintained. VEPCO’s failure to maintain its specified clearance was the proximate cause leading to the momentary outage on the Yadkin-Landstown 230 kV line on June 6, 2008.

⁴ The self-report incorrectly states the flashover occurred on the Yadkin to Thrasher line, instead of the Yadkin to Landstown line.

VEPCO submitted to SERC graphic charts that they developed as an aid to estimating the duration of the primary encroachment associated with the present alleged violation; *i.e.* the time period over which the tree involved in the flashover associated with the present alleged violation encroached VEPCO's Clearance 2 distance before flashover was incurred on June 6, 2008. One chart showed the estimated duration of the vegetation encroachment based upon VEPCO's TVMP Clearance 2 distance of 8 feet and another did the same analysis based upon the FAC-003-1 minimum allowed (*i.e.* "IEEE minimum") Clearance 2 distance of approximately 5.1 feet. VEPCO's analysis included consideration that:

- the tree involved in the flashover was a Bradford Pear tree;
- the average accelerated growth rate of Bradford Pear trees was assumed to be 7 feet per year after review of published typical growth rate data for this species;
- the distance between the conductor and vegetation at the time of flashover was estimated at 1.75 feet; and
- the duration of the growing season in the Mid-Atlantic region was determined to be approximately 4 months.

On the basis of its analysis, VEPCO determined that the pear tree involved in the flashover may have first encroached VEPCO's 8 foot TVMP Clearance 2 distance about mid-June 2007, and first encroached the IEEE minimum distance in early May 2008.

In determining the approximate duration of VEPCO's alleged violation of FAC-003-1 R2 and the appropriate sanction for the alleged violation, SERC Compliance Enforcement Staff considered the following:

- VEPCO's encroachment analysis and its resultant determinations that the tree involved in the flashover event began encroaching VEPCO's TVMP Clearance 2 distance in mid-June 2007, and the IEEE minimum Clearance 2 distance in early May 2008, before the flashover occurred and the tree involved was removed;
- VEPCO did not find any further encroachments, beyond the one involved in the flashover, during the course of patrols of its entire transmission system; and
- VEPCO's Clearance 2 distance exceeded the IEEE minimum required by the FAC-003-1 standard for the line class involved, and a more conservative Clearance 2 distance, if properly maintained, may reduce the risk of flashover between vegetation and overhead ungrounded supply conductors as compared to a Clearance 2 that is closer to the minimum air gap distance at which a flashover is likely to occur. Accordingly, SERC considered VEPCO's conservative Clearance 2 to be a significant mitigating factor in the determination of the penalty associated with this alleged violation.

The Yadkin-Landstown 230 kV transmission line was last patrolled by air on September 21, 2007 and by ground on December 6, 2006, at which time no issues were noted. This transmission corridor was last maintained in 2005, at which time the Settlement Agreement states that the offending tree would have been a small yard tree. However, due to its location in the ROW and as a fast-growing species in a well-fertilized location with an in-ground watering system, the tree should have been identified for removal. Maintenance tree work for this line is performed on a three year cycle. The Yadkin-Landstown 230 kV transmission line was scheduled for tree maintenance in 2008. The tree crews were working within five spans of the

location of the offending tree when the flashover occurred (approximately 6/10 of a mile away, which would take approximately two weeks before the maintenance crew reached the site).

According to the Settlement Agreement, for FAC-003-1 R2, SERC assessed a one hundred thousand dollars (\$100,000) monetary penalty for the following reasons: (1) VEPCO had no prior violation of this standard or any closely-related standard; (2) VEPCO's cooperation with SERC Compliance Enforcement Staff during the investigation; (3) the event involved a single, fast-growing tree and there were no other attendant growth issues associated with vegetation once the single tree was removed; (4) VEPCO agreed to expeditiously resolve this issue via settlement and initiated various mitigation and preventative measures before receiving a Notice of Alleged Violation and Proposed Penalty or Sanction from SERC; (5) VEPCO's prompt self-report of this alleged violation, which is related to a momentary outage that would not normally be included in the quarterly reports of outages caused by vegetation required pursuant to FAC-003-1, Requirement 3;⁵ (6) no misrepresentation or concealment of facts by VEPCO was evident; (7) the quality of VEPCO's comprehensive compliance program; (8) the mitigation and preventative measures implemented by VEPCO to correct the alleged violation and to protect against future violations of the same requirement, as described below in the Mitigation Plan section; and (9) VEPCO's conservatively established Clearance 2 of 8 feet for 230 kV class lines versus the IEEE minimum of 5.14 feet.

SERC Compliance Enforcement Staff concluded that the actual or foreseeable impact of the alleged violation on the reliability of the bulk power system was minimal because: (1) the encroachment of vegetation within VEPCO's established Clearance 2 was isolated to a single location on VEPCO's system as confirmed by the patrols completed pursuant to the Mitigation Plan; (2) the momentary outage resulted in no loss of generation or load; (3) no generation re-dispatch was required; (4) no system reconfiguration was necessary to respond to the next contingency consistent with system design and system contingency analysis; and (5) there were no extreme event scenarios (combinations of the outage of this line and the outage of other facilities that share common ROW or common substation equipment with this line) that resulted in loss of load or resulted in thermal overload or stability issues based on the model studies provided by VEPCO.

Thus, SERC determined that, in this instance, the single, aggregate financial penalty amount of one hundred thousand dollars (\$100,000) bears a reasonable relation to the seriousness and duration of the alleged violation and takes into consideration VEPCO's voluntary efforts to remedy the alleged violation in a timely manner. Furthermore, based on VEPCO's cooperation, commitment to compliance and agreement to expeditiously reconcile this issue via settlement, SERC determined that the penalty was appropriate.

⁵ Requirement 3 of FAC-003-1 requires the Transmission Owner to "report quarterly to its RRO, or the RRO's designee, sustained transmission line outages determined by the Transmission Owner to have been caused by vegetation." (emphasis added)

Status of Mitigation Plan⁶

VEPCO's Mitigation Plan to address the alleged violation of FAC-003-1 R2 was initially submitted to SERC on November 6, 2008 and revised on December 7, 2008,⁷ accepted by SERC on January 15, 2009 and approved by NERC on February 17, 2009. The Mitigation Plan for the alleged violation of FAC-003-1 R2 is designated as MIT-08-1366 and was submitted as non-public information to FERC on February 24, 2009, in accordance with FERC orders. VEPCO certified on January 9, 2009 to SERC that the Mitigation Plan was completed on December 24, 2008. SERC Compliance Enforcement Staff reviewed the evidence below in support of its Certification of Completion and verified on March 11, 2009 that the Mitigation Plan was timely completed.

The single, fast-growing tree involved in the event was removed on June 6, 2008. In addition, following the flashover and momentary outage on June 6, 2008, VEPCO patrolled by July 2, 2008 all remaining lines on VEPCO's 2008 and 2009 work cycles with International Society of Arboriculture certified arborists (either on ground or in air, with on ground follow up) and confirmed that no additional instances of vegetation encroachment existed. Patrols of VEPCO's remaining transmission lines were completed on December 24, 2008 pursuant to the Mitigation Plan with no additional instances of vegetation encroachment beyond the one involved in the triggering event on June 6, 2008. In addition, VEPCO completed refresher training by June 26, 2008 for all its Foresters on history of vegetation-related transmission outages, NERC Standard FAC-003-1 and VEPCO's TVMP, conductor sag and blowout variables and calculations, and tree growth rates by species. Annual refresher training for its Foresters and annual vegetation-focused patrols of all 230 kV and 500 kV corridors totaling 3,649 miles, and other lines deemed critical to bulk power system reliability have been added to VEPCO's TVMP.

SERC Compliance Enforcement Staff reviewed the following evidence submitted by VEPCO in support of its certification that its Mitigation Plan was completed in accordance with its terms:

- Photographs – *showing site of contact before and after the tree was removed.*
- Dominion Mitigation Patrol Completion Dates.xls – *Spreadsheet indicating Mitigation Patrol Completion Location, Dates, Patroller, Transmission Voltage Level, Maintenance Year to demonstrate that patrols of all 200 kV and above transmission lines were completed by December 24, 2008 and that the incident was isolated to the single tree causing the flashover.*
- Mitigation Patrol/Action Reports (numerous files): *Documentation of the lines patrolled, person that performed patrol, date and time patrol was performed, need for follow-up, and who and when follow-up was complete. These reports provide evidence that Entity conducted aerial patrols of its lines to locate any other possible problems and indicate that no other encroachments of Clearance 2 had been identified.*

⁶ See 18 C.F.R § 39.7(d)(7).

⁷ SERC requested VEPCO to revise the Mitigation Plan to include an additional milestone to patrol the remaining 200 kV and above transmission lines.

- 2008 Annual Training.pdf – *Training Roster and Agenda showing content and participants in the Forester Training on June 26, 2008 to ensure an objective existed for training and that appropriate individuals were trained.*
- VEPCO's Transmission Vegetation Management Program (TVMP) – *Verified clearance 2 distance remained at the original conservative distance of 8 feet and that the plan properly provided for inspection schedules based on the anticipated growth of vegetation and any other environmental or operational factors that could impact the relationship of vegetation to the Transmission Owner's transmission lines, and allowed for additional patrols at any time deemed necessary.*

As part of the Settlement Agreement, VEPCO will implement the following measures to help prevent a reoccurrence of a similar violation:

- Vegetation-specific ground or air patrols shall be conducted by ISA Certified Arborists once per calendar year on all transmission lines 200 kV and above and any line deemed critical to the reliability of the regional electric system. The cost of this is approximately \$150,000 annually;
- All Transmission Forestry personnel shall attend a formal training class once per calendar year in which refresher training shall be conducted by subject matter experts in the topics reviewed. In addition to this formal training, Forestry personnel will be frequently briefed on vegetation management standards and practices and other issues that affect the group. The cost of this is approximately \$3,500 annually;
- On March 2, 2008, VEPCO deployed to its vegetation management patrol personnel handheld devices that allow patrol findings to be electronically documented and stored in VEPCO Electric Transmission's work management system, SAP. Items documented in SAP will be assigned priority codes and attached to work orders that can be printed or electronically delivered to maintenance crews. The devices have the capability to associate GPS coordinates with patrol findings to reduce or eliminate the chance of misidentifying vegetation locations. The cost of this is approximately \$260,000 for initial implementation, support and to sustain the handheld devices;
- VEPCO has added an additional Forester and a technical specialist who provides technical support to the group and, by June 9, 2009, VEPCO hired two additional Foresters to its Transmission Forestry group. The cost is approximately \$300,000 annually for the four additional positions; and
- VEPCO shall notify SERC prior to any modification of its Clearance 2 values stated in its TVMP.

Statement Describing the Proposed Penalty, Sanction or Enforcement Action Imposed⁸

Basis for Determination

Taking into consideration the Commission's direction in Order No. 693, the NERC Sanction Guidelines and the Commission's July 3, 2008 Guidance Order,⁹ the NERC BOTCC reviewed

⁸ See 18 C.F.R § 39.7(d)(4).

⁹ *North American Electric Reliability Corporation*, "Guidance Order on Reliability Notices of Penalty," 124 FERC ¶ 61,015 (2008).

the Settlement Agreement and supporting documentation on March 11, 2009. The NERC BOTCC approved the Settlement Agreement, including SERC's imposition of a financial penalty of one hundred thousand dollars (\$100,000) against VEPCO, in addition to other actions to promote prospective compliance required under the terms and conditions of the Settlement Agreement. In approving the Settlement Agreement, the NERC BOTCC reviewed the applicable requirements of the Commission-approved Reliability Standards and the underlying facts and circumstances of the alleged violation at issue.

In reaching this determination, NERC BOTCC considered the following factors:

- the alleged violation was self-reported by VEPCO;
- VEPCO is implementing additional measures to protect against future violations of the same or similar requirements;
- the absence of prior violation history for VEPCO of this standard or a closely-related requirement;
- no misrepresentation or concealment of facts was evident;
- VEPCO cooperated fully in the investigation;
- VEPCO's reported quality and thoroughness of its comprehensive compliance program based on SERC Compliance Enforcement Staff's knowledge and VEPCO's active participation in regional activities, technical committees and compliance activities prior to and since mandatory implementation date of the reliability standards, as well as VEPCO's responses to a compliance program questionnaire and a detailed overview of the compliance program provided to SERC Compliance Enforcement Staff;
- patrols of all of VEPCO's transmission lines pursuant to the Mitigation Plan found no other instances of vegetation encroachment into its established Clearance 2 distance of 8 feet; and
- VEPCO has conservatively established a Clearance 2 distance of 8 feet, which exceeds the distance specified in the IEEE standard, the minimum required by FAC-003-1.

Therefore, NERC approves the Settlement Agreement and believes that the proposed financial penalty of one hundred thousand dollars (\$100,000) is appropriate and consistent with NERC's goal to ensure reliability of the bulk power system.

Pursuant to Order No. 693, the penalty will be effective upon expiration of the 30 day period following the filing of this Notice of Penalty with FERC, or, if FERC decides to review the penalty, upon final determination by FERC.

Attachments to be included as Part of this Notice of Penalty

The attachments to be included as part of this Notice of Penalty are the following documents and material:

- a) VEPCO's Self-report dated June 13, 2008, included as Attachment a;
- b) Settlement Agreement by and between VEPCO and SERC executed January 15, 2009, included as Attachment b;
- c) Mitigation Plan designated as MIT-08-1366 submitted December 7, 2008, included in the Settlement Agreement as Appendix A-1;
- d) VEPCO's Certification of Completion of the Mitigation Plan dated January 9, 2009, included in the Settlement Agreement as Appendix A-2;
- e) SERC's Verification of Completion of the Mitigation Plan dated March 11, 2009, included as Attachment c.

A Form of Notice Suitable for Publication¹⁰

A copy of a notice suitable for publication is included in Attachment d.

¹⁰ See 18 C.F.R § 39.7(d)(6).

Notices and Communications

Notices and communications with respect to this filing may be addressed to the following:

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*Persons to be included on the Commission's service list are indicated with an asterisk. NERC requests waiver of the Commission's rules and regulations to permit the inclusion of more than two people on the service list.

Conclusion

NERC respectfully requests that the Commission accept this Notice of Penalty as compliant with its rules, regulations and orders.

Respectfully submitted,

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David N. Cook
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/s/ Rebecca J. Michael
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cc: Virginia Electric and Power Company
SERC Reliability Corporation

Attachments

Attachment a

VEPCO's Self-Report dated June 13, 2008



SERC Reliability Corporation
Self-Reporting / Complaint Form Template
Revision 1 (10-25-07)

Report Type (please check): Self-Report Complaint

Date of Report: June 13, 2008

NAME OF PERSON REPORTING POSSIBLE STANDARD VIOLATION(S)		
CONTACT NAME	CONTACT TELEPHONE NUMBER	
Aaron Jonas	804-257-4683	
CONTACT E-MAIL	CONTACT FAX	
dane.jonas@dom.com	804-257-4826	
REPORTING COMPANY NAME	ANONYMOUS? (Y/N)	
Virginia Electric and Power Company	N	
NERC OR REGIONAL STANDARD(S) AND SPECIFIC REQUIREMENT(S) POSSIBLY VIOLATED		
NAME OF COMPANY POSSIBLY VIOLATING STANDARD(S)	ENTITY FUNCTION TYPE(S)	
Virginia Electric and Power Company	TO,TP,DP,LSE	
STANDARD # AND VERSION	MEASURE / REQUIREMENT	DATE OF POSSIBLE VIOLATION(S)
FAC-003-1	R1.2	06/06/2008
POSSIBLE VIOLATION DESCRIPTION, REASON FOR COMPLAINT, OR QUESTION		
<p>At 15:34, the 231 Line (Yadkin to Thrasher) operated. A serviceman was dispatched to investigate the operation and found evidence of a flashover from the transmission line to a tree growing inside the ROW. The Manager - Transmission Forestry then dispatched the Transmission Forester for the area who confirmed that a flashover had occurred.</p>		
RELIABILITY IMPACT (IF KNOWN)		
<p>None. There was no loss of load or sustained outage. The tree was removed from the ROW.</p> <p>Note: VEPCO is preparing a mitigation plan to submit to SERC to prevent or minimize the probability that this will occur elsewhere on its system.</p>		

SERC Staff will contact the person providing the report as soon as possible.
If you do not receive a response from SERC Staff within 2 business days please contact the SERC office (704-357-7372).

Please complete the form as completely as possible and email to serccomply@serc1.org.

Attachment b

Settlement Agreement by and between VEPCO and SERC executed January 15, 2009

SETTLEMENT AGREEMENT

OF

SERC RELIABILITY CORPORATION

AND

VIRGINIA ELECTRIC AND POWER COMPANY

I. INTRODUCTION

1. SERC Reliability Corporation (“SERC”) and Virginia Electric and Power Company (“VEPCO”) (NERC Compliance Registry ID # NCR01214¹) enter into this Settlement Agreement (“Agreement”) to resolve all outstanding issues arising from a preliminary and non-public assessment arising from a Self-Report by VEPCO dated June 13, 2008 and resulting in SERC’s determination and findings, pursuant to the North American Electric Reliability Corporation (“NERC”) Rules of Procedure, of a violation by VEPCO of NERC Reliability Standard FAC-003-1 (Transmission Vegetation Management Program), Requirement R2. (SERC Issue Tracking No. 08-057; NERC Violation ID No. SERC200800143)

II. STIPULATION

2. The facts stipulated herein are stipulated solely for the purpose of resolving, between VEPCO and SERC the matters discussed herein and do not constitute stipulations or admissions for any other purpose. VEPCO and SERC hereby stipulate and agree to the following:

Background

3. VEPCO is a public service corporation organized under the laws of Virginia to furnish electric service to the public within its Virginia service territory. The company also supplies electric service to the public in portions of North Carolina. VEPCO’s system also consists of facilities for the distribution, transmission and generation of power that are managed through separate operating segments.

¹ VEPCO is listed as a Transmission Owner on the NERC Compliance Registry as “Virginia Electric and Power Company (DP, LSE, TO, TP)”.

4. VEPCO is registered as a Transmission Owner and is therefore subject to the requirements of Reliability Standard FAC-003-1. VEPCO's transmission portfolio consists of over 6,000 miles of transmission lines in Virginia, North Carolina, and West Virginia, at voltages ranging from 69 kV to 500 kV. The number of miles at each transmission voltage level are:
 - 500 kV - 1143 miles
 - 230 kV - 2506 miles
 - 138 kV - 64 miles
 - 115 kV - 2276 miles
 - 69 kV - 102 miles

Alleged Violation

5. NERC Reliability Standard FAC-003-1, Requirement R1.2 states that a Transmission Vegetation Management Program requires, among other things, that "the Transmission Owner shall establish clearances to be achieved at the time of vegetation management work identified herein as Clearance 1, and shall also establish and maintain a set of clearances identified herein as Clearance 2 to be maintained under all rated electrical operating conditions to prevent flashover between vegetation and overhead ungrounded supply conductors."² Clearance 1 is the minimum clearance between vegetation and the conductor to which the entity is to trim vegetation at the time work is completed. Clearance 2 is the minimum clearance between vegetation and conductor that should never be encroached. Although the entity is free to determine these Clearances appropriate for conditions unique to each entity, Clearance 2 is subject to an IEEE required minimum of approximately 5.1 feet for a 230 kV line.³
6. With respect to an annual plan for vegetation management work, Requirement R2 of FAC-003-1 requires that "[t]he Transmission Owner shall create and implement an annual plan for vegetation management work to ensure the reliability of the system. The plan shall describe the methods used, such as manual clearing, mechanical clearing, herbicide treatment, or other actions. The plan should be flexible enough to adjust to changing conditions, taking into consideration anticipated growth of vegetation and all other environmental factors that may have an impact on the reliability of the transmission systems. Adjustments to the plan shall be documented as

² NERC Standard FAC-003-1 — Transmission Vegetation Management Program, Approved by NERC Board of Trustees on February 7, 2006, Approved by FERC effective June 18, 2007, Requirement R1.2.

³ Requirement R1.2.2 of FAC-003-1 incorporates by reference minimum distance standards provided by the Institute of Electrical and Electronics Engineers (IEEE) Standard 516-2003 (*Guide for Maintenance Methods on Energized Power Lines*), and as specified in its Section 4.2.2.3, "Minimum Air Insulation Distances without Tools in the Air Gap." For a 230 kV line such as the Yadkin-Landstown line, this minimum distance is approximately 5.1 feet.

they occur. The plan should take into consideration the time required to obtain permissions or permits from landowners or regulatory authorities.” Requirement R2 of FAC-003-1 also requires that “[e]ach Transmission Owner shall have systems and procedures for documenting and tracking the planned vegetation management work and ensuring that the vegetation management work was completed according to work specifications.”⁴

7. On June 6, 2008 at 15:34 a flashover and operation occurred on VEPCO’s Yadkin-Landstown 230 kV transmission line. The flashover and operation was the result of vegetation located within the right of way associated with the line. The relay systems at both ends of the line operated properly to clear the initial fault in 5 cycles. The line automatically reclosed at both terminals and after 10 cycles the fault re-appeared. Both terminals properly cleared this second fault in 4 cycles. Both terminals then successfully auto time reclosed (Yadkin at 17 seconds and Landstown at 22 seconds) and the line remained in service thereafter. The total time of the momentary operation on the line was less than 18 seconds. The line was 37.3% loaded at the time of the outage.
8. At approximately 16:00 on June 6, 2008, a VEPCO serviceman was dispatched to investigate a customer’s report that a flash occurred on the transmission line in her backyard. After reviewing the scene, the serviceman reported the situation to his supervisor who then reported the situation to the VEPCO Regional Operations Center (“ROC”) who passed the information to the VEPCO Electric Transmission System Operating Center (“SOC”). The SOC notified VEPCO’s Transmission Lines department of the operation. At approximately 17:30, VEPCO’s Manager of Transmission Lines notified the Manager of Transmission Forestry of the occurrence. A Transmission Forester was immediately dispatched and arrived on site at approximately 19:00. When the Forester arrived on scene, he reported that the conductor was approximately 6 feet from the top of the tree. The tree was approximately 32 feet tall. The line contacted the tree’s crown at a height of approximately 25 feet. The base of the tree was approximately 10 feet adjacent to outermost conductor, near mid span. A chainsaw was used to remove the tree. At 23:51 on June 6, 2008, all work was completed to clear the vegetation that caused the flashover and momentary outage.
9. On June 11, 2008, VEPCO’s incident response team, consisting of VEPCO’s Director – Reliability Compliance, Director – Electric Transmission Construction, Manager – Electric Transmission Forestry, and the NERC Compliance attorney telephoned SERC’s Manager of Compliance Enforcement to describe the particulars of the June 6, 2008 vegetation-related flashover and momentary operation; and to discuss the process for self-reporting a possible violation. On June 13, 2008, VEPCO submitted a Self-

⁴ NERC Standard FAC-003-1 — Transmission Vegetation Management Program, Approved by NERC Board of Trustees on February 7, 2006, Approved by FERC effective June 18, 2007, Requirement R2.

Report of a possible violation of Reliability Standard FAC-003-1, Requirement R1.2 associated with the June 6, 2008 flashover.

10. Upon receipt of VEPCO's Self-Report, SERC's Compliance Enforcement Staff ("SERC Staff") confirmed that VEPCO was listed on NERC's Compliance Registry as a Transmission Owner subject to the Requirements of Reliability Standard FAC-003-1 and commenced its detailed compliance assessment. Based on its review of the Self-Report, SERC Staff determined that VEPCO's possible violation applied to FAC-003-1 R2, rather than FAC-003-1 R1.2 as self-reported by VEPCO. On June 17, 2008, SERC Staff issued to VEPCO a Compliance Assessment Notice advising VEPCO of the initiation of a formal assessment to determine its compliance relative to Reliability Standard FAC-003-1 R2 and directing VEPCO to preserve all relevant records and information. SERC Staff promptly established direct contact with representatives of VEPCO to begin the process of gathering information and documentation for the detailed compliance assessment. SERC Staff also reported the possible violations to NERC which, in turn, reported the possible violations to the Federal Energy Regulatory Commission (the "Commission") in accordance with the Compliance Monitoring and Enforcement Program ("CMEP") of the NERC Rules of Procedure.
11. On June 18, 2008 VEPCO provided SERC with photographs from the site where the tree contact occurred. On June 25, 2008 SERC requested VEPCO answer a detailed questionnaire as part of the detailed assessment and received the data from VEPCO on July 8, 2008.
12. VEPCO's Transmission Vegetation Management Program specifies Clearance 2 as 8 feet for its 230 kV lines such as the Yadkin-Landstown line. VEPCO uses distances specified in Section 5.2, "Working in Proximity to Electrical Hazards", of the American National Standards Institute ("ANSI") Standard Z133.1-1994 (Pruning, Trimming, Repairing, Maintaining, and Removing Trees, and Cutting Brush – Safety Requirements) as the basis for its Clearance 2 distances. This standard specifies a minimum working distance of 7'11" for energized 230 kV conductors; VEPCO prescribes a Clearance 2 distance of 8' for the same voltage level. The ANSI distances are more conservative than those set forth in the IEEE Standard 516-2003, Section 4.2.2.3, which are the minimum Clearance 2 distances required by section R1.2.2 of NERC Standard FAC-003-1. VEPCO selected ANSI distances as the basis for Clearance 2 to permit safe approach distances for workers performing vegetation maintenance activities around energized conductors.
13. VEPCO's transmission corridors are patrolled on a three-year cycle by arborists certified by the International Society of Arboriculture with experience in hazard tree evaluation. In addition, all transmission rights-of-way are inspected annually by either transmission line personnel or by aerial inspection. Any vegetation that poses a risk to transmission lines on VEPCO rights-of-way during these patrols is to be reported to Transmission Forestry. The Yadkin-Landstown transmission line was last patrolled by air on September 21, 2007 and by ground on December 6, 2006, with no issues noted.

Maintenance tree work for this line is performed on a three year cycle. The Yadkin-Landstown transmission line was scheduled for tree maintenance in 2008. The tree crews were working within five spans of the location of the offending tree when the flashover occurred.

14. Immediately after the event, Transmission Forestry mobilized a team to evaluate the event and take steps to prevent a reoccurrence. By July 2, 2008, VEPCO had patrolled all remaining lines on VEPCO's 2008 and 2009 work cycles with International Society of Arboriculture certified arborists (either on ground or in air, with on ground follow up).
15. VEPCO provided refresher training for all its Foresters on history of vegetation-related transmission outages, NERC Standard FAC-003-1 and VEPCO's Transmission Vegetation Management Plan, conductor sag and blowout variables and calculations, and tree growth rates by species. The refresher training was completed by June 26, 2008.
16. VEPCO's investigation of the June 6, 2008 flashover and momentary outage of the Yadkin-Landstown 230 kV transmission line determined the root cause to be a Bradford pear tree growing in a customer's backyard. This transmission corridor was last maintained in 2005. At that time, the tree would have been a small yard tree. However, due to its location in the ROW and as a fast-growing species in a well-fertilized location with an in-ground watering system, the tree should have been identified for removal.
17. On July 2, 2008, VEPCO formally requested the commencement of settlement discussions to resolve the allegations of the violation of FAC-003, Requirement R2.
18. On July 15, 2008, SERC Staff requested that VEPCO provide studies and line outage simulations that model the potential impact on the Bulk-Power System from an outage of the Yadkin-Landstown 230 kV transmission line. Pursuant to SERC's request, VEPCO prepared the requested studies and provided the results to SERC. Due to the local nature of this line, it does not appear on the transmission studies that VEPCO prepares. VEPCO reviewed thermal and voltage levels on the transmission system, performed a Stability Impact Study and studied various contingencies as well, to determine whether there would be any impact to the bulk power system, if there had been a sustained outage on the 231 line. VEPCO also provided the fault recorder data for the 231 line. All data confirmed that the momentary outage experienced on the line did not impact the bulk power system, and that a sustained outage would not affect the stability or security of the bulk power system, due to the physical location and local nature of the line. SERC Staff received the study data on July 18, 2008. On August 22, 2008 SERC Compliance Staff met with VEPCO representatives to review additional information related to the line outage. On November 4, 2008, SERC Staff held a conference call with VEPCO to review facts surrounding the vegetation incident.

19. To estimate the duration of time that the tree was within VEPCO's Clearance 2 and IEEE minimum distances, VEPCO considered several variables including:
- the growth rate of the Bradford Pear tree,
 - distance between the conductor and vegetation at the time of flashover, and
 - the duration of the growing season in the Mid-Atlantic region.

Considering that the Bradford Pear tree is a fast-growing species and that the offending tree was located in a well-fertilized backyard that included an in-ground sprinkler system, VEPCO estimated that the tree could potentially grow between 6 to 8 feet per year. VEPCO used an average accelerated growth rate of 7 feet per year for its analysis.

VEPCO estimated that this flashover occurred between 1.5 and 2 feet from the conductor to the tree and selected the average of these distances, 1.75 feet, for its analysis.

The growing season for the Mid-Atlantic region starts approximately in the beginning of May and continues through August. For its analysis, VEPCO estimated that the duration of the growing season lasts approximately four months, starting May 1 and continuing to August 31.

Using the estimated growth rate of the tree, approximate flashover distance, and estimated duration of the growing season, VEPCO developed, and submitted to SERC, two graphs to gauge the estimated duration of encroachments; one chart showed the estimated duration of vegetation encroachment into VEPCO's Clearance 2 distance of 8 feet, the other showed the estimated duration of encroachment into the IEEE minimum distance of 5.1 feet. The graphs estimate that encroachment into VEPCO's Clearance 2 distance could have occurred in early to mid June 2007 and encroachment into the IEEE minimum distance could have occurred in early May 2008.

20. NERC Reliability Standard FAC-003-1, Requirement R2, has a "High" Violation Risk Factor ("VRF").
21. SERC Staff concluded that there was minimal actual or foreseeable impact on the reliability of the bulk-power system because: (1) the momentary outage resulted in no loss of generation or load; (2) no generation re-dispatch was required; (3) no system reconfiguration was necessary to respond to the next contingency consistent with system design and system contingency analysis; and (4) there were no extreme event scenarios (combinations of the outage of this line and the outage of other facilities that share common right-of-way or common substation equipment with this line) that resulted in loss of load or resulted in thermal overload or stability issues based on the model studies provided by VEPCO.
22. As a result of its detailed compliance assessment, SERC Staff concluded that the facts and evidence supported a finding that VEPCO violated NERC Reliability Standard

FAC-003-1, R2, as evidence showed that vegetation in the form of a Bradford Pear tree was allowed to grow within established clearance, resulting in a momentary outage of the Yadkin-Landstown 230 kV transmission line.

III. PARTIES' SEPARATE REPRESENTATIONS

STATEMENT OF SERC AND SUMMARY OF FINDINGS

23. SERC Staff concluded that VEPCO violated FAC-003-1, R2. While VEPCO has an applicable Transmission Vegetation Management Program ("TVMP"), SERC Staff identified evidence of a failure in the implementation of the program, which resulted in an encroachment into Clearance 2 space. As a Transmission Owner, VEPCO was required by FAC-003-1 to specify and maintain Clearance 2 between any 200 kV or greater transmission line and any vegetation surrounding that line. Consistent with this requirement, the Transmission Vegetation Management Program for VEPCO specifies Clearance 2 as 8 feet for the Yadkin-Landstown 230 kV transmission line. The flashover on the Yadkin-Landstown 230 kV line on June 6, 2008 is evidence of VEPCO's failure to maintain its specified Clearance 2. Thus, the Transmission Vegetation Management Program was not carried out in a manner so as to prevent this contact or flashover with vegetation and this violated FAC-003-1, R2.

24. SERC finds that an encroachment of vegetation into VEPCO's specified Clearance 2 distance of 8 feet between the energized, ungrounded conductor and the vegetation within the right-of-way on the Yadkin-Landstown 230 kV transmission line occurred on or before June 6, 2008. VEPCO's failure to maintain its specified Clearance 2 within the Yadkin-Landstown 230 kV right-of-way is a violation of FAC-003-1, R2, because VEPCO did not implement its Transmission Vegetation Management Program in a manner that took into account the anticipated growth of the Bradford Pear tree such that, in this case, a clearance of 8 feet between the energized, ungrounded conductor and the vegetation within the right-of-way was not maintained. VEPCO's failure to maintain its specified clearance was the proximate cause leading to the momentary outage on the Yadkin-Landstown line on June 6, 2008. In attempting to determine the duration of the violation, SERC Staff took into consideration the date of the flashover and momentary outage on the Yadkin-Landstown line, the growth rate and growing season of the Bradford Pear tree that encroached Clearance 2 and was the apparent cause of the flashover, the distance as estimated by VEPCO between the conductor and the Bradford Pear tree, the estimated line loading and line sag at the time of the flashover, the Minimum Air Insulation Distances for 230 kV lines from the relevant IEEE standard, and VEPCO's conservatively established Clearance 2 of 8 feet, which exceeds the distance specified in the IEEE standard. SERC Staff estimated that the Bradford Pear tree had encroached into VEPCO's specified 8-foot Clearance 2 by approximately six (6) feet and was approximately three (3) feet inside the IEEE minimum clearance at the time of the flashover on June 6, 2008. Thus, SERC Staff concluded that the reasonable duration of the encroachment into Clearance 2 lasted from approximately June 15, 2007 until June 6, 2008, and the encroachment into the

IEEE minimum clearance lasted from approximately May 6, 2008 until June 6, 2008. Because the load on the Yadkin-Landstown line at the time of the flashover was significantly below the maximum rated operating load of the line, SERC Staff believes its estimate of the duration of the encroachments is conservative but reasonable.

25. SERC Staff considered a number of factors in determining the appropriate penalty and sanction required for this violation, including:
- i. VEPCO has an internal compliance program that was developed using Commission guidance.⁵ VEPCO has participated in voluntary compliance programs prior to the effective date of the mandatory and enforceable reliability standards. This comprehensive program includes substantial, high-level support and dedicated compliance personnel who are responsible for its implementation.
 - ii. VEPCO promptly mitigated the violation and patrolled all remaining lines on the 2008 and 2009 work cycles with International Society of Arboriculture certified arborists by July 2, 2008 (either on ground or in air, with on ground follow up). Furthermore, VEPCO patrolled its remaining lines operated above 200 kV (those lines contained in the 2010 work cycle) by December 24, 2008, pursuant to its Mitigation Plan.
 - iii. VEPCO has established a conservative Clearance 2 of 8 feet versus the IEEE minimum requirement of 5.1 feet. A more conservative Clearance 2 distance, if properly maintained, may reduce the risk of flashover between vegetation and overhead ungrounded supply conductors as compared to a Clearance 2 that is closer to the minimum air gap distance at which a flashover is likely to occur.
 - iv. VEPCO self-reported the possible violation, has cooperated in every respect with SERC Staff throughout the detailed compliance assessment and provided timely responses to all of SERC Staff's questions about the details of this violation. There is no prior violation history for VEPCO of this standard or a closely-related requirement. There is no indication of an attempt by VEPCO to conceal any information. There is no indication that the violation was intentional.
26. SERC Staff concluded that the actual or foreseeable impact of the alleged violation on the reliable operation of the Bulk-Power System was minimal because: (1) the encroachment of vegetation within VEPCO's established Clearance 2 was isolated to a single location on VEPCO's system; (2) the flashover and momentary operation that resulted from the isolated encroachment caused no loss of generation or load; and (3) transmission planning analyses indicate that an outage of the Yadkin-Landstown line does not contribute to a violation of thermal or dynamic limits during any contingency

⁵ Policy Statement on Compliance, 125 FERC ¶ 61,058, PP 6, 13-15 (October 16, 2008).

or multiple-contingency scenarios, consistent with system design and system contingency analysis.

27. SERC agrees that this Agreement is in the best interest of the parties and in the best interest of bulk-power system reliability.

STATEMENT OF VEPCO

28. VEPCO neither admits nor denies that the facts set forth and agreed to by the parties for purposes of this Agreement constitute a violation of Reliability Standard FAC-003-1, R2. Dominion Resources, Inc. (“Dominion”), parent of VEPCO, maintains a robust and effective compliance program to ensure compliance with NERC Standards, as described more fully below.

Dominion Resources, Inc - Ethics and Compliance Program

29. Compliance responsibility for VEPCO’s NERC Compliance is managed within the Electric Transmission business unit,. NERC Compliance, including VEPCO’s, is also administered as a part of the Dominion corporate Ethics and Compliance program. Within every business unit in Dominion with NERC compliance responsibilities, there is a NERC Compliance Officer who is appointed by Dominion’s Chief Compliance Officer. The NERC Compliance Officer within the business unit is a member of Dominion’s senior management team and is responsible for oversight and ensuring the overall compliance of the business unit. In addition, within the corporate Ethics and Compliance program, there are additional resources tasked with corporate NERC compliance.
30. The Chief Compliance Officer at Dominion reports directly to the CEO, and on matters of compliance, to the Audit Committee of Dominion’s Board of Directors. The Chief Compliance Officer maintains a direct line of communication to Dominion’s CEO. In addition, the NERC Compliance Attorney acts as part of the Ethics and Compliance program, which reports to the Board of Directors through the Chief Compliance Officer. This organization and reporting relationship is wholly separate from the NERC Compliance efforts that take place within the business units. The corporate Ethics and Compliance program coordinates and manages NERC compliance for all of Dominion’s registered entities. The NERC Compliance Officer and Reliability Compliance organization within Electric Transmission are responsible for the performance of the Reliability Standards. In addition, the Ethics and Compliance Program provides through a third-party vendor a Compliance Line (telephone or internet) that operates independently of the business units. All employees have access to the Compliance Line, where they can make anonymous reports of any compliance issue.
31. NERC Compliance is one of the programs administered by Dominion’s corporate-wide Ethics and Compliance Program. An essential piece of the Ethics and Compliance

Program is the delivery of training to employees on their compliance obligations. Through periodic training on Dominion's Code of Ethics, employees are educated on their compliance responsibilities, including the duty to report concerns or raise questions about compliance issues, as well as the various methods available for raising concerns.

Electric Transmission Compliance

32. VEPCO's Electric Transmission organization takes its reliability and compliance responsibilities very seriously, and has maintained a comprehensive and effective compliance program since the NERC Pilot Compliance Program was introduced in 1999 with the issuance of Planning Standards and Operating Standards. In addition to developing its own highly effective internal compliance program, VEPCO has also been actively involved in the development and administration of SERC's regional compliance program. A number of VEPCO Electric Transmission representatives have, and continue to serve, in key leadership positions on the SERC Compliance Committee and SERC compliance advisory groups.
33. As the NERC Compliance Program evolved over the years, even when compliance was not mandatory, compliance within the Electric Transmission organization has always had strong senior management support. The incumbent Vice President – Electric Transmission, is VEPCO's Primary Compliance Officer and is the Authorized Signatory for all Electric Transmission compliance submittals. VEPCO's Vice President – Electric Transmission has embraced the NERC Compliance Program from Day 1, and has been fully engaged, and supportive of those activities necessary to meet the requirements of the compliance program. Upon passage of the Energy Policy Act of 2005, which mandated compliance with NERC Reliability Standards, and the subsequent designation of NERC as the Electric Reliability Organization (ERO), VEPCO's Vice President – Electric Transmission immediately understood the significance, and consequences, of "raising the bar" in compliance and realized early on that Electric Transmission, even with an effective compliance program, would have to further elevate compliance visibility throughout the organization, and promote a more formal compliance culture.
34. The vision and personal commitment to compliance of VEPCO's Vice President – Electric Transmission led to the formation of an Electric Transmission Reliability Compliance organization in early 2008, comprised of dedicated, titled compliance personnel. The purpose of VEPCO's Reliability Compliance group is to provide direction and oversight on compliance with NERC mandatory Reliability Standards to those departments within Electric Transmission, with an emphasis on insuring consistency in all compliance efforts. In addition to promoting a robust compliance culture throughout the organization, Reliability Compliance is responsible for evaluating and recommending appropriate compliance management software and business tools to facilitate the development, tracking, scheduling, documentation and "audit-readiness" of Electric Transmission's NERC Compliance program. The end

result is an even more robust and vigorous internal compliance program consisting of systematic and effective preventive measures.

35. The Reliability Compliance group's complete focus is on NERC Compliance. However, because a compliance event can occur even with a robust internal compliance program in place, Reliability Compliance is positioned to work hand-in-hand with those departments within Electric Transmission in the prompt detection, cessation and reporting of a potential non-compliance incident, should it occur. Reliability Compliance will also take the lead to insure that prompt corrective action is taken to remedy those issues found to be the root cause of any compliance event. The compliance event which is the subject of this settlement agreement is an example of Electric Transmission's commitment to the prompt detection, reporting and remediation of such an incident.

Transmission Forestry

36. Immediately after the June 6, 2008 incident, a team was formed to review the circumstances surrounding the flashover and develop a mitigation plan. Members of the team included the Vice President – Electric Transmission, Director - Reliability Compliance, Director - Transmission Construction, Director – Electric Transmission System Operations Center, and members from the Forestry, Engineering, and Reliability groups. Prior to the incident, VEPCO had a comprehensive Transmission Vegetation Management Plan that exceeded industry standards in many areas including:
- i. Professional Employees
 - All Transmission Foresters have a bachelor's degree in Forestry or closely related field and are certified International Society of Arboriculture arborists.
 - ii. Integrated Vegetation Management Program
 - Transmission Forestry has a comprehensive, systematic integrated vegetation management program.
 - Tree maintenance is performed on three-year cycles. During maintenance, tree removal is emphasized to promote long-term vegetation control and minimize future maintenance expenditures.
 - In addition to tree work inside the right of way, transmission foresters search for hazardous trees outside the right of way during routine maintenance tree work. Any tree identified as showing signs of defect or disease that could cause the tree to fail and fall into the transmission conductors is removed.
 - VEPCO incorporates a selective herbicide application program as part of vegetation management. This program uses low volume, selective applications of herbicide to reduce and eventually eliminate undesirable vegetation that threatens the transmission system.

37. Despite these attributes, the team identified several opportunities to improve the Transmission Vegetation Management Plan and included these improvements into the program. The following paragraphs describe the lessons learned from the June 6, 2008 incident and explain the steps VEPCO has taken to improve its Transmission Vegetation Management Plan.

Patrols

- i. Prior to the clearance 2 encroachment, a combined line equipment and vegetation patrol was performed annually on transmission lines $\geq 200\text{kV}$ by Transmission Linemen or by aerial patrols. Vegetation-specific patrols were conducted by International Society of Arboriculture (“ISA”) Certified Arborists during the transmission line’s maintenance cycle, which occurs every three years. Since the incident, VEPCO has concluded that because the expertise of the Transmission Lineman performing the annual patrols was not typically in vegetation management, opportunities could be missed to identify vegetation with the potential to become an issue before the next maintenance cycle. To prevent these missed opportunities, VEPCO now requires vegetation-specific ground or air patrols to be conducted by ISA Certified Arborists once per calendar year on all transmission lines $\geq 200\text{kV}$ and any line deemed to be critical to the reliability of the regional electric system. VEPCO has elected to conduct vegetation-specific patrols by Certified Arborists to ensure the proper focus is given to vegetation conditions. Vegetation-specific patrols conducted by ISA Certified Arborists have been identified as a superior practice by the Transmission Owners and Operator’s Forum Vegetation Management Group. The incremental cost to perform these vegetation-specific patrols will be approximately \$150,000 annually.

Training

- ii. VEPCO requires all Transmission Forestry personnel, excluding the manager and technical specialist, to have a bachelor’s degree in Forestry or a closely related field and an Arborist Certification from ISA. Although VEPCO Transmission Foresters are experts in their field, an opportunity to enhance their expertise by conducting formal training was identified as a result of the incident. Transmission Forestry now requires all Forestry personnel to attend a formal refresher training class once per calendar year. The refresher training is conducted by subject matter experts and includes training on topics such as NERC Standard FAC-003 requirements and measures, VEPCO’s Transmission Vegetation Management Plan, vegetation growth rates, transmission conductor operating variables (sag and blowout), and lessons learned from other companies’ vegetation-related transmission outages. In addition to this formal training, Forestry personnel are required to maintain their ISA certification by earning continuing education credits through ISA approved activities and are frequently briefed on vegetation management standards and practices and other issues that affect the group.

VEPCO considers the addition of this formal training class to be an industry standard practice and a necessary component of its Transmission Vegetation Management Plan. The cost to perform the formal annual refresher training is approximately \$3,500 annually.

Documentation and Communication

- iii. Although the incident did not occur as a result of misidentifying the location of the vegetation, VEPCO recognized the importance of accurately documenting vegetation concerns to ensure timely resolution. In the past, patrol findings requiring attention were communicated to tree crews verbally or were documented on handwritten notes for future reference. Starting in 2009, Transmission Forestry will implement handheld devices that will allow patrol findings to be electronically documented and stored in Electric Transmission's work management system, SAP. Items documented in SAP will be assigned priority codes and attached to work orders that can be printed or electronically delivered to maintenance crews. The devices will have the capability to associate GPS coordinates with patrol findings to reduce or eliminate the risk of misidentifying vegetation locations. The estimated initial cost to implement, support, and sustain the handheld devices will be approximately \$260,000.

Forestry Workforce

- iv. VEPCO is adding personnel to the Transmission Forestry group to provide additional vegetation management oversight. Prior to the clearance 2 encroachment, the group was staffed with nine personnel; one manager and eight foresters. Since the incident the group has added an additional Forester and a Technical Specialist who provides technical support to the group. In 2009, the group will add two additional full time Foresters. The total annual cost for these additional four positions will be \$300,000.
38. VEPCO is confident the enhancements to its Transmission Vegetation Management Plan and the addition of personnel to the Transmission Forestry group will substantially reduce the likelihood of a reoccurrence of this type of incident.
39. Although VEPCO does not admit to, nor does it deny, the findings and alleged violation described herein, VEPCO has agreed to enter into this Agreement with SERC to avoid extended litigation with respect to the matters described or referred to herein, to avoid uncertainty, and to effectuate a complete and final resolution of the issues set forth herein. VEPCO agrees that this Agreement is in the best interest of the parties and in the best interest of maintaining a reliable electric infrastructure.

IV. MITIGATING ACTIONS, REMEDIES AND SANCTIONS

40. For purposes of settling any and all disputes arising from SERC's assessment of the alleged violation by VEPCO of Reliability Standard FAC-003-1, R2, as reported by VEPCO in its Self Report dated June 13, 2008, SERC and VEPCO herein agree that VEPCO has taken, or shall take, the actions to restore compliance and prevent recurrence, as set forth in this Section IV and in VEPCO's Mitigation Plan submitted to SERC on December 7, 2008.
41. VEPCO submitted a Mitigation Plan to address the alleged violation of FAC-003-1 on November 6, 2008. SERC requested that VEPCO revise the mitigation plan to include an additional milestone to patrol the remaining 200 kV and above transmission lines. VEPCO submitted the revised Mitigation Plan on December 7, 2008. SERC accepted VEPCO's Mitigation Plan on January 15, 2009 whereupon the Mitigation Plan was submitted to NERC for its approval in accordance with the CMEP. Following approval by NERC, the Mitigation Plan will be submitted as non-public information to the Commission in accordance with Commission orders. VEPCO certified on January 9, 2009 that the Mitigation Plan was completed on December 24, 2008. VEPCO's Mitigation Plan and its Certification of Mitigation Plan Completion are attached hereto as Appendix A-1 and A-2.
42. Actions implemented by VEPCO in its Mitigation Plan, summarized here and attached as Appendix A-1, eliminated the alleged violation and will help to prevent a recurrence of any similar violation. The single, fast-growing tree involved in the event was removed on June 6, 2008. In addition, following the flashover and momentary outage on June 6, 2008, VEPCO patrolled by July 2, 2008 all remaining lines on VEPCO's 2008 and 2009 work cycles with International Society of Arboriculture certified arborists (either on ground or in air, with on ground follow up) and confirmed that no additional instances of vegetation encroachment existed. Patrols of VEPCO's remaining transmission lines were completed on December 24, 2008 pursuant to the Mitigation Plan with no instances of vegetation encroachment. In addition, VEPCO completed refresher training by June 26, 2008 for all its Foresters on history of vegetation-related transmission outages, NERC Standard FAC-003-1 and VEPCO's TVMP, conductor sag and blowout variables and calculations, and tree growth rates by species. Annual Refresher training for its foresters and the annual vegetation-focused patrol of all 200kV and above corridors have been added to VEPCO's TVMP. SERC has determined that the actions set forth in the Mitigation Plan are effective for restoring compliance and will review VEPCO's evidence of completion of these actions. It is understood that SERC Staff shall audit the completion of the Mitigation Plan, including, but not limited to, site inspection, interviews, and may request other documentation to validate completion of the Mitigation Plan. SERC shall reasonably coordinate audits and information requests with VEPCO related to these Mitigation Plan actions.
43. In addition to the actions to restore compliance set forth in the Mitigation Plan, SERC and VEPCO agree that VEPCO will implement the following measures to help prevent a recurrence of a similar violation:

- i. Vegetation-specific ground or air patrols shall be conducted by ISA Certified Arborists once per calendar year on all transmission lines $\geq 200\text{kV}$ and any line deemed to be critical to the reliability of the regional electric system.
 - ii. All Forestry personnel shall attend a formal training class once per calendar year, which refresher training shall be conducted by subject matter experts in the topics reviewed. In addition to this formal training, Forestry personnel will be frequently briefed on vegetation management standards and practices and other issues that affect the group.
 - iii. VEPCO will deploy to its vegetation management patrol personnel handheld devices that allow patrol findings to be electronically documented and stored in VEPCO Electric Transmission's work management system, SAP. Items documented in SAP will be assigned priority codes and attached to work orders that can be printed or electronically delivered to maintenance crews. The devices will have the capability to associate GPS coordinates with patrol findings to reduce or eliminate the chance of misidentifying vegetation locations.
 - iv. VEPCO has added an additional Forester and a technical specialist who provides technical support to the group and, in 2009, VEPCO will add two additional Foresters to its Transmission Forestry group.
 - v. VEPCO will notice SERC prior to any modification of its Clearance 2 values stated in its Transmission Vegetation Management Plan.
44. SERC has reviewed the mitigation actions and preventative measures described in the Mitigation Plan and in Paragraph 43 and has determined that these measures will assist VEPCO in improving prospective compliance with the requirements of FAC-003-1 and will ultimately enhance the reliability of the bulk-power system within an appropriate time-frame.
45. In order to facilitate SERC's need to communicate the status of the actions agreed upon herein, and to provide accountability to NERC, VEPCO will provide quarterly or more frequently, upon request by SERC, updates as set forth in the Mitigation Plan attached hereto as Appendix A-1 and in Paragraph 43. VEPCO will submit these status updates to SERC in accordance with the confidentiality provisions of Section 1500 of the NERC Rules of Procedure.
46. It is understood that SERC Staff shall audit the progress of mitigation plans and any other remedies of this Agreement, including, but not limited to site inspection, interviews, and request other documentation to validate progress and/or completion of the mitigation plans and any other remedies of this Agreement. SERC Staff shall reasonably coordinate audits and information requests with VEPCO related to this Agreement.

47. SERC Staff also considered the specific facts and circumstances of the alleged violation and VEPCO's actions in response to the alleged violation in determining a proposed penalty that meets the requirement in Section 215 of the Federal Power Act that "[a]ny penalty imposed under this section shall bear a reasonable relation to the seriousness of the violation and shall take into consideration the efforts of [VEPCO] to remedy the violation in a timely manner."⁶ The factors considered by SERC Staff in the determination of the appropriate penalty for VEPCO's alleged violation of FAC-003-1 pursuant to this Settlement Agreement included the following:

- (i) The alleged violation had minimal actual or foreseeable impact on the reliability of the bulk-power system because: (1) the momentary interruption of the transmission line resulted in no loss of generation or load; (2) no generation re-dispatch was required; (3) no system reconfiguration was necessary to respond to the next contingency consistent with system design and system contingency analysis; and (4) there were no extreme event scenarios (combinations of the outage of this line and the outage of other facilities that share common right-of-way or common substation equipment with this line) that resulted in loss of load or violations of thermal or dynamic limits.
- (ii) The absence of a prior violation by VEPCO of this standard or any closely-related standard.
- (iii) VEPCO's cooperation with SERC Staff during the investigation. VEPCO provided timely responses to all of SERC Staff's questionnaires and data requests and satisfactorily cooperated with SERC Staff to review the facts and circumstances associated with the alleged violation.
- (iv) This event involved a single, fast-growing tree and there were no other attendant vegetation issues associated with vegetation once the single tree was removed.
- (v) VEPCO agreed to expeditiously resolve this issue via settlement and initiated various mitigation and preventative measures before receiving a Notice of Alleged Violation from SERC.⁷
- (vi) VEPCO's self-report of the alleged violation. SERC Staff recognized as a significant mitigating factor VEPCO's prompt self-report of this violation,

⁶ 16 U.S.C. § 824o(e)(6) (2006).

⁷ Because of VEPCO's request for settlement and prompt initiation of mitigation and preventive measures, no Notice of Alleged Violation was issued by SERC for this alleged violation.

which is related to a momentary outage that would not normally be included in the quarterly reports of outages caused by vegetation required pursuant to FAC-003-1, Requirement 3.⁸

- (vii) VEPCO clearly did not attempt to conceal the violation which is evident by its prompt self-report of the possible violation. Furthermore, VEPCO clearly did not intend to commit such a violation.
 - (viii) The presence and quality of VEPCO's comprehensive compliance program along with the improvements and enhancements to VEPCO's compliance program described in Paragraphs 28-35.
 - (ix) The extensive mitigation measures implemented by VEPCO to correct the alleged violation and to protect against future violations of the same requirement.
48. Based on the above factors, as well as the mitigation actions and preventative measures taken (or to be taken) by VEPCO pursuant to the Mitigation Plan and Paragraph 43 of this Agreement, VEPCO shall pay a monetary penalty of \$100,000 to SERC via check within twenty days of this Agreement either being approved by the Commission or becoming effective by operation of law. SERC shall notify VEPCO and NERC if the payment is not received.
49. The estimated costs to VEPCO to implement the agreed to measures in Paragraph 43 are approximately \$710,000. SERC may audit and inspect financial records to validate actual expenditures with estimates in this Agreement. Funding and programs associated with this Agreement will exceed VEPCO's original planned budget and programs for the Transmission Operations and Maintenance in calendar years 2008 and 2009.
50. Failure to make a timely penalty payment or to comply with any of the terms and conditions agreed to herein, or any other conditions of this Agreement, shall be deemed to be either the same alleged violation that initiated this Agreement and/or additional violation(s) and may subject VEPCO to new or additional enforcement, penalty or sanction actions in accordance with the NERC Rules of Procedure. VEPCO shall retain all rights to defend against such additional enforcement actions in accordance with NERC Rules of Procedure.

⁸ Requirement R3 of FAC-003-1 requires the Transmission Owner to "report quarterly to its RRO, or the RRO's designee, *sustained* transmission line outages determined by the Transmission Owner to have been caused by vegetation." (emphasis added)

51. If VEPCO does not make the monetary penalty payment above at the times agreed by the parties, interest payable to SERC will begin to accrue pursuant to the Commission's regulations at 18 C.F.R. § 35.19(a)(2)(iii) from the date that payment is due, in addition to the penalty specified above.

V. ADDITIONAL TERMS

52. The signatories to the Agreement agree that they enter into the Agreement voluntarily and that, other than the recitations set forth herein, no tender, offer or promise of any kind by any member, employee, officer, director, agent or representative of SERC or VEPCO has been made to induce the signatories or any other party to enter into the Agreement. The signatories agree that the terms and conditions of this Agreement are consistent with the Commission's regulations and orders, and NERC's Rules of Procedure.

53. SERC shall report the terms of all settlements of compliance matters to NERC. NERC will review the settlement for the purpose of evaluating its consistency with other settlements entered into for similar violations or under other, similar circumstances. Based on this review, NERC will either approve the settlement or reject the settlement and notify SERC and VEPCO of changes to the settlement that would result in approval. If NERC rejects the settlement, NERC will provide specific written reasons for such rejection and SERC will attempt to negotiate a revised settlement agreement with VEPCO including any changes to the settlement specified by NERC. If a settlement cannot be reached, the enforcement process shall continue to conclusion. If NERC approves the settlement, NERC will (i) report the approved settlement to the Commission for the Commission's review and approval by order or operation of law and (ii) publicly post the alleged violation and the terms provided for in the settlement.

54. The Agreement will be submitted to the Commission and will be subject to Commission review pursuant to section 39.7 of the Commission's regulations.

55. This Agreement shall become effective upon NERC and the Commission's approval by order or operation of applicable law as submitted to it or as modified in a manner acceptable to the parties..

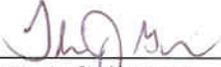
56. VEPCO agrees that this Agreement, when approved by NERC and the Commission without material modification, shall represent a final settlement of all matters set forth herein. Absent an assertion by VEPCO that there has been any material modification, VEPCO waives its right to further hearings and appeal. SERC reserves all rights to initiate enforcement, penalty or sanction actions against VEPCO in accordance with the NERC Rules of Procedure in the event that VEPCO fails to comply with the mitigation plan and compliance program agreed to in this Agreement. In the event VEPCO fails to comply with any of the stipulations, remedies, sanctions or additional terms, as set forth in this Agreement, SERC will initiate enforcement, penalty, or sanction actions against VEPCO to the maximum extent allowed by the NERC Rules of Procedure, up

to the maximum statutorily allowed penalty. VEPCO shall retain all rights to defend against such enforcement actions, also according to the NERC Rules of Procedure.

57. Each of the undersigned warrants that he or she is an authorized representative of the entity designated, is authorized to bind such entity and accepts the Agreement on the entity's behalf.
58. The undersigned representative of each party affirms that he or she has read the Agreement, that all of the matters set forth in the Agreement are true and correct to the best of his or her knowledge, information and belief, and that he or she understands that the Agreement is entered into by such party in express reliance on those representations, provided, however, that such affirmation by each party's representative shall not apply to the other party's statements of position set forth in Section III of this Agreement.
59. The Agreement may be signed in counterparts.
60. This Agreement is executed in duplicate, each of which so executed shall be deemed to be an original.

***Remainder of page intentionally blank.
Signatures to be affixed to the following page.***

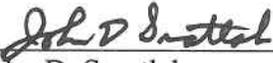
Agreed to and accepted:



Thomas J. Galloway
Vice President and Director of Compliance
SERC Reliability Corporation ("SERC")

1/15/09

Date



John D. Smatlak
Vice President – Electric Transmission
Virginia Electric and Power Company ("VEPCO")

1/15/09

Date

**APPENDIX A
TO
SETTLEMENT AGREEMENT
OF
SERC RELIABILITY CORPORATION
AND
VIRGINIA ELECTRIC AND POWER COMPANY**

(1) VEPCO's Mitigation Plan

(2) VEPCO's Certification of Mitigation Plan Completion

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Mitigation Plan Submittal Form

Date this Mitigation Plan is being submitted: 12/07/08

If this Mitigation Plan has already been completed:

- Check this box and
- Provide the Date of Completion of the Mitigation Plan:

Section A: Compliance Notices

- Section 6.2 of the CMEP¹ sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:
 - (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section 2.0.
 - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
 - (3) The cause of the Alleged or Confirmed Violation(s).
 - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
 - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
 - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
 - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
 - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined for not completing work associated with accepted milestones.
 - (9) Any other information deemed necessary or appropriate.
 - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self-Certification or Self Reporting submittals.

¹ "Uniform Compliance Monitoring and Enforcement Program of the North American Electric Reliability Corporation;" a copy of the current version approved by the Federal Energy Regulatory Commission is posted on NERC's website.

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- This submittal form shall be used to provide a required Mitigation Plan for review and approval by SERC and NERC.
- The Mitigation Plan shall be submitted to SERC and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
- This Mitigation Plan form may be used to address one or more related violations of one Reliability Standard. A separate mitigation plan is required to address violations with respect to each additional Reliability Standard, as applicable.
- If the Mitigation Plan is approved by SERC and NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission in accordance with applicable Commission rules, regulations and orders.
- SERC or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
- Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.

Section B: Registered Entity Information

B.1 Identify your organization:

Company Name: Virginia Electric and Power Company
Company Address: 120 Tredegar Street, Richmond, VA 23219
NERC Compliance Registry ID *[if known]*: NCR01214

B.2 Identify the individual in your organization who will serve as the Contact to SERC regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to SERC regarding this Mitigation Plan.

Name: David L. Searles
Title: Director, Reliability Compliance
Email: david.searles@dom.com
Phone: 804-771-3237

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Section C: Identity of Reliability Standard Violations Associated with this Mitigation Plan

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

C.1 Standard: FAC-003-1
[Identify by Standard Acronym (e.g. FAC-001-1)]

C.2 Requirement(s) violated and violation dates:
[Enter information in the following Table]

NERC Violation ID # [if known]	SERC Violation ID # [if known]	Requirement Violated (e.g. R3.2)	Violation Date ^(*)
SERCYYYYnnnnn	08-057	R2	06/06/2008

(*) Note: The Violation Date shall be: (i) the date that the violation occurred; (ii) the date that the violation was self-reported; or (iii) the date that the violation has been deemed to have occurred on by SERC. Questions regarding the date to use should be directed to SERC.

C.3 Identify the cause of the violation(s) identified above:

On June 6, 2008, VEPCO experienced an operation on its 231 line. The serviceman dispatched to investigate the incident found evidence of a flashover from the transmission line to a Bradford Pear tree growing in a customer's backyard. The forester dispatched to remediate the situation confirmed that a flashover had occurred. At the time of the operation, the base of the tree was located approximately 10 feet from the nearest conductor and had encroached VEPCO's Clearance 2.

The last tree maintenance cycle for the 231 line was completed between August 2005 and January 2006. Tree crews were performing maintenance work on the 231 line and were working five spans away from the location of the operation, at the time of the event.

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At the time of the last maintenance cycle in 2005, the tree would have been a small yard tree. However, due to its location in the ROW and as a fast-growing species in a well-fertilized location with an in-ground watering system, the tree should have been identified for removal.

Subsequent patrols were performed on this transmission corridor in 2006 and 2007, in accordance with VEPCO's TVMP. However, these patrols were not vegetation-specific. While able to note danger trees and other vegetation-related issues, the personnel performing the annual reviews were not foresters and would not have had adequate training on the growth rates of vegetation and the maximum sag of the line that would have allowed them to make a determination that the tree may encroach Clearance 2 prior to the next trimming cycle.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

C.4 **[Optional]** Provide any relevant additional information regarding the violations associated with this Mitigation Plan:

The forester responding to the event coordinated and directed the activity of the tree crew on the scene to safely remove the tree from the ROW. The tree was removed using gas-powered chain saws to cut the tree and rope to direct the tree's fall. The tree crew first removed the lower limbs of the tree and then cut the tree approximately 2 feet from the ground.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

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Section D: Details of Proposed Mitigation Plan

Mitigation Plan Contents

- D.1 Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violations identified above in Part C.2 of this form:

After confirmation of the flashover, the Vegetation Emergency Communication plan contained in VEPCO's TVMP was implemented. The SOC removed the line from service to allow for work to be safely done. The vegetation was removed from the right-of-way and the line was placed back in service without further incident.

Based on VEPCO's review of the incident, it has taken additional steps outside of its immediate mitigation of this event to mitigate the possibility that this situation will reoccur. The specific steps being taken are detailed in Section E.3 below.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

Check this box and proceed to Section E of this form if this Mitigation Plan, as set forth in Part D.1, has already been completed; otherwise respond to Part D.2, D.3 and, optionally, Part D.4, below.

Mitigation Plan Timeline and Milestones

- D.2 Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected:

06/06/08 – Vegetation on 231 Line removed

07/02/08 – Patrol of all 200 kV and above lines in 2008 and 2009 work cycle completed

01/09/09 – Patrol of all 200 kV and above lines in 2007 work cycle to be completed and mitigation plan fully completed

- D.3 Enter Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

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Milestone Activity	Proposed Completion Date* (shall not be more than 3 months apart)
Patrol of remaining corridors to be completed	01/09/09

(*) Note: Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined for not completing work associated with accepted milestones.

[Note: Provide your response here; additional detailed information may be provided as an attachment as necessary]

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Additional Relevant Information (Optional)

- D.4 If you have any relevant additional information that you wish to include regarding the mitigation plan, milestones, milestones dates and completion date proposed above you may include it here:

VEPCO recognizes that the date for completion for the review of the corridors in the 2007 work cycle is more than three months after the review of the lines in the 2008 and 2009 work cycles were completed. At the time of the event, VEPCO determined that the only lines that could have had such an event were those lines that had not had a maintenance cycle since the enactment of FAC-003. Recently, VEPCO determined that the best way to ensure the reliability of the bulk power system, and demonstrate that this incident was an isolated event on its system, was to patrol the corridors in the 2007 work cycle as well, and has begun performing this review.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

Section E: Interim and Future Reliability Risk

Check this box and proceed and respond to Part E.2 and E.3, below, if this Mitigation Plan, as set forth in Part D.1, has already been completed.

Abatement of Interim BPS Reliability Risk

- E.1 While your organization is implementing the Mitigation Plan proposed in Part D of this form, the reliability of the Bulk Power System may remain at higher risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are, or may be, known or anticipated: (i) identify any such risks or impacts; and (ii) discuss any actions that your organization is planning to take or is proposing as part of the Mitigation Plan to mitigate any increased risk to the reliability of the bulk power system while the Mitigation Plan is being implemented:

At no time was the reliability of the bulk power system threatened by this event. VEPCO regularly performs studies on its system, considering various contingencies, in accordance with TPL-002, -003 and 004. The 231 line does not appear in any of VEPCO's TPL studies as a problem.

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Due to the physical location and local nature of this line, it could not impact the BPS.

Pursuant to SERC's request, VEPCO reviewed thermal and voltage levels on the transmission system in the area of the 231 line and found no concerns under various contingencies, had there been a sustained outage of the 231 line instead of a momentary operation. VEPCO also performed additional modeling to determine whether there would be any impact on the bulk power system based on a number of different contingencies involving the 231 line. The Stability Impact Study performed confirmed that the 231 line does not affect the bulk power system, and that loss of that line would have no impact on the security of the bulk power system from a stability aspect.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

Prevention of Future BPS Reliability Risk

- E.2 Describe how successful completion of the Mitigation Plan as laid out in Part D of this form will prevent or minimize the probability that your organization incurs further violations of the same or similar reliability standards requirements in the future:

In accordance with its TVMP, VEPCO took immediate steps to close out any threat caused by the vegetation that had the potential to encroach in Clearance 2. Complete removal of the vegetation, as was done to mitigate this incident, will ensure that no additional incident will take place at this location. As is discussed in E.3 below, VEPCO has taken additional steps to enhance its vegetation management practices to minimize the likelihood that it will experience a similar event.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

- E.3 Your organization may be taking or planning other action, beyond that listed in the Mitigation Plan, as proposed in Part D.1, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements listed in Part C.2, or of other reliability standards. If so, identify and describe any such action, including milestones and completion dates:

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VEPCO has taken a number of actions to prevent or minimize the probability that a similar situation will happen in the future. Specifically, VEPCO has undertaken the following actions by the dates specified:

June 26, 2008

Refresher training for Foresters - to take place on an annual basis going forward. This training will review NERC Standard FAC-003 and VEPCO's TVMP, transmission conductor operating variables (sag and blow out), tree growth rates by species, as well as Lessons Learned from other companies' vegetation-related transmission outages.

July 2, 2008

To determine whether there were any other locations that needed vegetation attention, and to establish whether or not this event was an isolated occurrence, VEPCO immediately developed and implemented a plan to review all of its corridors that had not had a maintenance cycle since the enactment of FAC-003. To accomplish this, VEPCO mobilized its own foresters, as well as contractors, all of whom were certified arborists, to perform an enhanced patrol of all 200kV and above corridors remaining in the 2008 work cycle (last maintained in 2005) and all 200 kV and above corridors in the 2009 work cycle (last maintained in 2006). The foresters were instructed to remove any vegetation that could compromise VEPCO's Clearance 2 distance prior to the next maintenance cycle. This enhanced patrol was performed by foot and aerial patrols and was completed by 7/2/08.

The findings point to the 6/6/08 incident as an isolated event on the VEPCO system, but VEPCO is adding the annual vegetation-focused review of its 200kV and above corridors to its procedures as a way to minimize the likelihood of a future encroachment into Clearance 2 at any location on its system.

January 9, 2009

As discussed in Section D, VEPCO is undertaking additional patrols of all transmission corridors that were not initially reviewed after the June 6 incident. While VEPCO believes these corridors to be of limited risk, due to the last maintenance cycle on these lines being completed in 2007, after the application of FAC-003, in an abundance of caution and to ensure the reliable operation of the bulk power system, VEPCO is currently conducting a review of the 200kV and above lines on its remaining transmission corridors.

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Similar to the patrols completed in July, VEPCO has mobilized its Forestry team, as well as contractors, all of whom are certified arborists. VEPCO expects to complete this review by January 9, 2009.

Ongoing

In accordance with the steps listed above, both the Annual Refresher training for its foresters and the annual vegetation-focused patrol of all 200kV and above corridors have been added to VEPCO's TVMP.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

[Continued on Next Page](#)

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Section F: Authorization

An authorized individual must sign and date this Mitigation Plan Submittal Form. By doing so, this individual, on behalf of your organization:

- a) Submits the Mitigation Plan, as laid out in Section D of this form, to SERC for acceptance by SERC and approval by NERC, and
- b) If applicable, certifies that the Mitigation Plan, as laid out in Section D of this form, was completed (i) as laid out in Section D of this form and (ii) on or before the date provided as the 'Date of Completion of the Mitigation Plan' on this form, and
- c) Acknowledges:
 1. I am John D. Smatlak of Virginia Electric and Power Company.
 2. I am qualified to sign this Mitigation Plan on behalf of Virginia Electric and Power Company.
 3. I have read and understand Virginia Electric and Power Company's obligations to comply with Mitigation Plan requirements and ERO remedial action directives as well as ERO documents, including, but not limited to, the NERC Rules of Procedure, including Appendix 4(C) (Compliance Monitoring and Enforcement Program of the North American Electric Reliability Corporation" (NERC CMEP)).
 4. I have read and am familiar with the contents of the foregoing Mitigation Plan.
 5. Virginia Electric and Power Company agrees to be bound by, and comply with, the Mitigation Plan, including the timetable completion date, as approved by SERC and approved by NERC.

Authorized Individual Signature

A handwritten signature in black ink, appearing to read 'John D. Smatlak', is written over a horizontal line.

(Electronic signatures are acceptable; see CMEP)

Name (Print): John D. Smatlak

Title: Vice President - Transmission

Date: December 7, 2008

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Section G: Comments and Additional Information

You may use this area to provide comments or any additional relevant information not previously addressed in this form.

VEPCO takes its reliability and compliance responsibilities very seriously, and has maintained an effective vegetation management program for many years. Nonetheless, VEPCO experienced an encroachment into its Clearance 2 that was brought to light as a result of the momentary operation on its 231 line on June 6, 2008.

After the instant mitigation of this incident, VEPCO took immediate steps to review all lines that had not had a maintenance cycle since the enactment of FAC-003 to identify any other issues that may have been missed under its existing vegetation management procedures. VEPCO also has taken a review of its vegetation management plan and has added additional procedures to help ensure the reliability of the bulk power system by limiting the chance that an incident like this could occur elsewhere.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

Submittal Instructions:

Please convert the completed and signed document to an Adobe .pdf document using the following naming convention:

[(MP Entity Name (STD-XXX) MM-DD-YY).pdf]

Email the pdf file to serccomply@serc1.org.

Please direct any questions regarding completion of this form to:

Ken Keels
Manager, Compliance Enforcement
SERC Reliability Corporation
704-357-7372
kkeels@serc1.org



John D. Smatlak
Vice President
Transmission

Dominion Virginia Power • Dominion North Carolina Power
120 Tredegar Street, Richmond, VA 23219

Mailing Address: P.O. Box 26532
Richmond, VA 23261

Certification of a Completed Mitigation Plan

SERC Reliability Corporation Violation Mitigation Plan Closure Form

Name of Registered Entity submitting certification: Virginia Electric and Power Company

Date of Certification: 01/09/09

Name of Standard and the Requirement(s) of mitigated violation(s): FAC-003-1

SERC Tracking Number (contact SERC if not known): 08-057

NERC Violation ID Number (if assigned):

Date of completion of the Mitigation Plan: 12/24/08

Summary of all actions described in Part D of the relevant mitigation plan: At the time of the submittal of its mitigation plan, VEPCO had not completed the comprehensive review of its transmission corridors to check for any vegetation-related issues. While VEPCO immediately reviewed all lines in the 2008 and 2009 work cycles, it did not patrol the corridors in its 2007 work cycle. VEPCO has now completed the review of all of its transmission lines to ensure the integrity of its overall vegetation management program, that the 06/06/08 event was an isolated event on its system, and that the reliability of the bulk power system is not affected.

In addition, VEPCO has submitted a revised TVMP to SERC with the amendments discussed in the Mitigation Plan.

Description of the information provided to SERC for their evaluation: Certification of completion of patrols, revised TVMP

I certify that the mitigation plan for the above-named violation has been completed on the date shown above. In doing so, I certify that all required mitigation plan actions described in Part D of the relevant mitigation plan have been completed, compliance has been restored, the above-named entity is currently compliant with all of the requirements of the referenced standard, and that all information submitted information is complete and correct to the best of my knowledge.

Name: John D. Smatlak
Title: Vice President – Transmission
Entity: Virginia Electric and Power Company
Email: john.smatlak@dom.com
Phone: (804)819-2919

Designated Signature John D. Smatlak Date 1/9/09

(Form Revised August 13, 2008)

Attachment c

SERC's Verification of Completion of the Mitigation Plan, dated March 11, 2009

**Statement of SERC Reliability Corporation Compliance Staff Regarding
Completion of Mitigation Plan**

Registered Entity: Virginia Electric and Power Company
SERC Tracking ID: 08-057
NERC Violation No: SERC200800143
NERC Mitigation Plan ID: MIT-08-1366
Standard: FAC-003-1
Requirement: 2

Violation Summary:

SERC Staff concluded that VEPCO violated FAC-003-1, Requirement R2. While VEPCO has an applicable Transmission Vegetation Management Program, SERC Staff identified evidence of a failure in the implementation of the program, which resulted in an encroachment into Clearance 2 space. As a Transmission Owner, VEPCO was required by FAC-003-1 to specify and maintain Clearance 2 between any 200 kV or greater transmission line and any vegetation surrounding that line. Consistent with this requirement, the Transmission Vegetation Management Program for VEPCO specifies Clearance 2 as 8 feet for the Yadkin-Landstown 230 kV transmission line. The flashover on the Yadkin-Landstown 230 kV line on June 6, 2008 is evidence of VEPCO's failure to maintain its specified Clearance 2. Thus, the Transmission Vegetation Management Program was not carried out in a manner so as to prevent this contact or flashover with vegetation and this violated FAC-003-1, Requirement R2.

Mitigation Plan Summary:

VEPCO's Mitigation Plan to address the referenced violation was submitted on November 6, 2008 and VEPCO subsequently submitted a revised Mitigation Plan, at the request of SERC Staff, on December 7, 2008. The Mitigation Plan, as revised, was accepted by SERC on January 15, 2009 and approved by NERC on February 17, 2009. The Mitigation Plan is identified as MIT-08-1366 and was submitted as non-public information to FERC on February 24, 2009 in accordance with FERC orders.

To mitigate the alleged violation, VEPCO removed the offending vegetation following the flashover and momentary outage on June 6, 2008 and patrolled all remaining lines on VEPCO's 2008 and 2009 work cycle by July 2, 2008 with International Society of Arboriculture certified arborists (either on ground or in air, with on ground follow up) and confirmed that no additional instances of vegetation encroachment existed. The revised Mitigation Plan submitted on December 7, 2008 included patrols of VEPCO's remaining transmission lines, which were completed on December 24, 2008, with no instances of vegetation encroachment. In addition, VEPCO completed refresher training by June 26, 2008 for all its Foresters on NERC Standard FAC-003 and VEPCO's TVMP,

transmission conductor operating variables (sag and blow out), tree growth rates by species, as well as Lessons Learned from other companies' vegetation-related transmission outages.

In addition to the actions to restore compliance set forth in the Mitigation Plan, VEPCO will implement the a number of measures to help prevent a recurrence of a similar violation, as set forth in Paragraph 43 of the Settlement Agreement between SERC and VEPCO.

SERC's Monitoring of Registered Entity's Mitigation Plan Progress:

SERC Reliability Corporation Compliance Staff ("SERC Staff") monitors the Registered Entity's progress towards completion of its Mitigation Plans in accordance with Section 6.0 of the uniform Compliance Monitoring and Enforcement Program, ("CMEP"). Pursuant to the CMEP, Registered Entities are required to establish implementation milestones no more than three (3) months apart. SERC Staff solicits quarterly reports from all Registered Entities with open mitigation plans to monitor the progress on completion of milestones. SERC Staff also produces and reviews daily Mitigation Plan status reports highlighting Mitigation Plans that are nearing the scheduled completion date. If the Registered Entity fails to complete its Mitigation Plan according to schedule, appropriate additional enforcement action is initiated to assure compliance is attained.

Mitigation Plan Completion Review Process:

VEPCO certified on January 9, 2009 that the subject Mitigation Plan was completed on December 24, 2008. A SERC compliance staff member reviewed the evidence submitted in a manner similar to a compliance audit. That action was followed by another compliance staff member's peer review of the initial conclusion.

Evidence Reviewed:

VEPCO submitted and SERC Staff reviewed the following evidence in support of its certification that its Mitigation Plan was completed in accordance with its terms:

- Photographs – *showing site of contact before and after the tree was removed*
- Dominion Mitigation Patrol Completion Dates.xls – *Spreadsheet indicating Mitigation Patrol Completion Location, Dates, Patroller, Transmission Voltage Level, Maintenance Year to demonstrate that patrols of all 200 kV and above transmission lines were completed by December 24, 2008 and that the incident was isolated to the single tree causing the flashover*
- Mitigation Patrol/Action Reports (numerous files): *Documentation of the lines patrolled, person that performed patrol, date and time patrol was performed, need for follow-up, and who and when follow-up was complete. These reports provide evidence that Entity conducted aerial patrols of its lines to locate any other possible*

problems and indicate that no other encroachments of Clearance 2 had been identified.

- *2008 Annual Training.pdf – Training Roster and Agenda showing content and participants in the Forester Training on June 26, 2008 to ensure an objective existed for training and that appropriate individuals were trained*
- *VEPCO's Transmission Vegetation Management Program (TVMP) – Verified clearance 2 remained at the original conservative distance of 8 feet and that the plan properly provided for inspection schedules based on the anticipated growth of vegetation and any other environmental or operational factors that could impact the relationship of vegetation to the Transmission Owner's transmission lines, and allowed for additional patrols at any time deemed necessary .*

Conclusion:

On March 11, 2009 SERC Reliability Corporation Compliance Staff ("SERC Staff") completed its review of the evidence submitted by VEPCO in support of its Certification of Completion of the subject Mitigation Plan. Based on its review of the evidence submitted, SERC Staff verifies that, in its professional judgment, all required actions in the Mitigation Plan have been completed and VEPCO is in compliance with the subject Reliability Standard Requirements.

This Statement, along with the subject Mitigation Plan, may become part of a public record upon final disposition of the possible violation.

Respectfully Submitted,
Andrea Koch, Compliance Engineer
James Harrell, Senior Auditor

Attachment d

Notice of Filing

Attachment d

Notice of Filing

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Virginia Electric and Power Company

Docket No. NP09-____-000

NOTICE OF FILING
September 25, 2009

Take notice that on September 25, 2009, the North American Electric Reliability Corporation (NERC) filed a Notice of Penalty regarding Virginia Electric and Power Company in the SERC Reliability Corporation region.

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211, 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. Such notices, motions, or protests must be filed on or before the comment date. On or before the comment date, it is not necessary to serve motions to intervene or protests on persons other than the Applicant.

The Commission encourages electronic submission of protests and interventions in lieu of paper using the "eFiling" link at <http://www.ferc.gov>. Persons unable to file electronically should submit an original and 14 copies of the protest or intervention to the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426.

This filing is accessible on-line at <http://www.ferc.gov>, using the "eLibrary" link and is available for review in the Commission's Public Reference Room in Washington, D.C. There is an "eSubscription" link on the web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: [BLANK]

Kimberly D. Bose,
Secretary