

June 29, 2012

Ms. Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

**Re: NERC Full Notice of Penalty regarding Tennessee Valley Authority,  
FERC Docket No. NP12-\_-000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty<sup>1</sup> regarding Tennessee Valley Authority (TVA), NERC Registry ID# NCR01151,<sup>2</sup> in accordance with the Federal Energy Regulatory Commission's (Commission or FERC) rules, regulations and orders, as well as NERC's Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).<sup>3</sup>

TVA is a federally-owned corporation that provides power to 155 power distributors and 56 direct-served customers in a service area that encompasses portions of seven southeastern states. TVA owns and operates approximately 34,000 MW of generating capacity and approximately 16,000 miles of transmission lines.

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<sup>1</sup> *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 (2011). *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).

<sup>2</sup> SERC Reliability Corporation confirmed that TVA was included on the NERC Compliance Registry as a Balancing Authority (BA), Distribution Provider (DP), Generator Owner (GO), Generator Operator (GOP), Load Serving Entity (LSE), Planning Authority (PA), Reliability Coordinator (RC), Resource Planner (RP), Transmission Owner (TO), Transmission Operator (TOP), Transmission Planner (TP), and Transmission Service Provider (TSP) on May 31, 2007. SERC Reliability Corporation confirmed that TVA was included on the NERC Compliance Registry as an Interchange Authority on March 20, 2008. As a TO, TVA is subject to the requirements of NERC Reliability Standard FAC-003-1.

<sup>3</sup> See 18 C.F.R § 39.7(c)(2).

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This Notice of Penalty is being filed with the Commission because SERC Reliability Corporation (SERC) and TVA have entered into a Settlement Agreement to resolve all outstanding issues arising from SERC's determination and findings of a violation<sup>4</sup> of FAC-003-1 R2. According to the Settlement Agreement, TVA admits to the violation and has agreed to the assessed penalty of one hundred seventy-five thousand dollars (\$175,000), in addition to other remedies and actions to mitigate the instant violation and facilitate future compliance under the terms and conditions of the Settlement Agreement. Accordingly, the violation identified as NERC Violation Tracking Identification Number SERC201000598 is being filed in accordance with the NERC Rules of Procedure and the CMEP.

### Statement of Findings Underlying the Violation

This Notice of Penalty incorporates the findings and justifications set forth in the Settlement Agreement executed on June 13, 2012, by and between SERC and TVA, which is included as Attachment a. 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 (2011), NERC provides the following summary table identifying each 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	TVA	NOC-1415	SERC201000598	FAC-003-1	2	High	\$175,000

#### FAC-003-1

The purpose statement of Reliability Standard FAC-003-1 provides: "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 transmission ROW, and reporting vegetation-related outages of the transmission systems to the respective Regional Reliability Organizations (RRO) and the North American Electric Reliability Council (NERC)."

<sup>4</sup> For purposes of this document, each violation at issue is described as a "violation," regardless of its procedural posture and whether it was a possible, alleged or confirmed violation.

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FAC-003-1 R2 provides: “The 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 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) and a “Severe” Violation Severity Level (VSL). The subject violation applies to TVA’s TO function.

On August 10, 2010, TVA contacted SERC regarding a vegetation contact interruption, which resulted in a sustained outage of the Widows Creek to Madison 500 kV line on August 9, 2010. TVA submitted its Self-Report on August 11, 2010. There was no interruption in service as a result of the sustained outage.

On August 11, 2010, a member of SERC met with TVA at the site of the outage in Stevenson, Alabama. SERC was provided with a short briefing by TVA and viewed the right of way (ROW) where the outage occurred. TVA explained that after the relays automatically operated to interrupt the line, the breakers were manually closed in an attempt to return the line to service. However, the relays re-tripped the breaker, resulting in a failure to return the line to service. Due to the signature of the digital fault records, TVA personnel thought that the interruption was caused by avian roost fowling on an insulator rather than tree contact. TVA dispatched line crews in the afternoon on August 9, 2010 to determine the actual cause of the outage; crews failed to identify the cause prior to nightfall. The following morning, TVA crews found a tree with scorching and determined that this was the likely cause of the line interruption. TVA management was contacted and clearing crews were dispatched. The tree was a black willow tree located within the ROW nearly directly under the “A” phase line, approximately 1/3 of the distance between the two transmission tower structures 51 and 52.

At the site, SERC examined the black willow tree that had been cut and placed to the side of the ROW. The tree showed characteristic charring and bark-splitting as well as a patch of burned area at the uppermost crown, which is consistent with high voltage entering the uppermost area and travelling to ground at the base of the tree. The tree appeared to be healthy prior to being damaged by contact with the transmission line. The uppermost portion of the crown was not brittle and still exhibited

some flexibility, which is consistent with it having been alive at the time of the incident. The tree was approximately 37 feet tall with an approximate diameter of 6 inches.

In addition, the connected field and ROW appeared to have been mostly covered with low scrub and grasses prior to the post-outage clearing activities, with the exception of the area immediately surrounding the subject tree. That area had additional woody growth, but from pictures provided by TVA, the subject tree was the lone vegetation sufficiently tall enough to result in the flash-over and subsequent outage. The soil appeared mostly dry except for a shallow gully directly adjacent to the stump of the black willow (approximately 3 to 4 feet between the stump and the shallow gully). Meteorological data obtained from internet sources indicated only trace amounts of rain in the 10 days prior to the incident. Since the temperatures had been in the upper to mid 90s for several days with only trace amounts of rain, the fact that the gully still exhibited moisture in the soil was a likely contributor to the high growth rate of the willow tree. TVA indicated that this area is classified as a wetland along a main flow channel within the wetland that contributed to a more than normal growth rate. Much of the ground had been disturbed due to clearing activities following the discovery of the proximity of the tree to the 500 kV line. The stump of the willow tree was heavily damaged by clearing activities making it difficult to discern the lean of the tree. Judging from the felled tree, SERC determined it was most likely nearly vertical. The stump was located within 3 feet of the centerline of the A-phase of the line in the outermost position on the tower. The ground around the stump was slightly higher than the surrounding area (< 2 feet) and was on the edge of the gully.

SERC observed that the ROW backs up to a church and a small residential dwelling. The field did not appear to be used by adjacent residents. The visible ROW east and west of the site appeared to be clear of any tall-growing vegetation that could threaten encroachment, as did the few crossings observed during travel to and from the site.

According to TVA, the conditions specific to the line and location at the time of the event were:

- Line load ~ 5.4%
- Ambient Temperature near 100° F
- No wind reported
- Line Temp Estimate (TVA supplied) ~145° F
- Design Height of Conductor ~40 feet
- Distance between Towers ~1000 feet
- Distance from Tower to location of black willow ~370 feet
- TVA Clearance 2 – 10 feet

TVA's Vegetation Management Plan is based on a three-year floor clearing cycle with annual aerial inspections. Under this periodicity, it is possible for four growing seasons to occur between clearings if a section is cleared before the growing season of year one and after the growing season of year three. The subject section of the ROW was last cleared in January 2007 and was scheduled for clearing in 2010. TVA states that the aerial inspections conducted in May 2009 and May 2010 did not identify the area as a problem. At the time of the outage, the subject section had not yet been cleared; therefore, almost four complete growing seasons had occurred between clearing activities on this particular ROW section. Additionally, the subject tree had four distinct growth-rings, which is consistent with it having been through four growing periods prior to the contact and flashover.

On August 19, 2010, a member of SERC conducted aerial observations of the lines representing the four ROW clearing cycles: completed in the current year, completed in the prior year, completed two years prior and scheduled in the current year. Based on his observations, SERC concluded that TVA had been executing its vegetation management plan as written.

SERC determined that TVA had a violation of FAC-003-1 R2 because the August 9, 2010 sustained outage was caused by vegetation contact resulting from the encroachment of native vegetation, which indicates a failure of TVA's vegetation management plan to ensure the reliability of the system. Specifically, the plan was not flexible enough to adjust to changing conditions, such as anticipated growth of vegetation and all other environmental factors that may impact reliability.

SERC determined the duration of the violation to be from August 9, 2010, the date the contact and outage occurred, through October 1, 2010, when the Mitigation Plan was completed.

SERC determined that this violation posed a moderate risk to the reliability of the BPS, but did not pose a serious or substantial risk. The vegetation management plan failed to prevent encroachment by vegetation, which caused the sustained outage of a 500 kV line. However, the line loading was minimal and no system reconfiguration was necessary for TVA to continue reliable operations. Second, there were no Interconnection Reliability Operating Limit violations, generation re-dispatches, reductions of generation reserves, system-wide disturbances, or interruptions in service to any customers as a result of the event. Additionally, TVA was operating consistent with the Reliability Standards to withstand a single contingency; therefore, the contact was within its planned operating conditions. All evidence reviewed by SERC indicated that this incident was related to site-specific conditions that led to the black willow sustaining a high growth rate throughout the intervening period between clearing activities. Lastly, when TVA completed its line inspections, it found no other encroachments into Clearance 2 existing on its transmission system.

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#### Regional Entity's Basis for Penalty

According to the Settlement Agreement, SERC has assessed a penalty of one hundred seventy-five thousand dollars (\$175,000) for the referenced violation. In reaching this determination, SERC considered the following factors:

- (1) TVA has no previously-filed violations of the same or similar Standard;
- (2) TVA self-reported the violation;
- (3) TVA was cooperative throughout the compliance enforcement process;
- (4) TVA has a documented compliance program which was initially approved in July 2008 and was developed to formally establish the structure of TVA's compliance program; SERC considered TVA's compliance program to be a mitigating factor in the penalty determination. TVA's compliance program is disseminated to all business units responsible for compliance with NERC Standards. TVA's Chief Operating Officer (COO) approves and is responsible for the compliance program. TVA's Vice-President of Transmission Planning & Compliance oversees the management and operation of the compliance program. The COO reports to the CEO and has direct access to TVA's Board of Directors. The Reliability Standards Compliance Oversight Group, which provides guidance and oversight of TVA's reliability standards compliance program, meets monthly and is comprised of vice-presidents and senior management;
- (5) SERC determined the violation posed a moderate risk and did not pose a serious or substantial risk to the reliability of the BPS;
- (6) There was no evidence that TVA attempted to conceal the violation;
- (7) There was no evidence that the violation was intentional;
- (8) There were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

After consideration of the above factors, SERC determined that, in this instance, the penalty amount of one hundred seventy-five thousand dollars (\$175,000) is appropriate and bears a reasonable relation to the seriousness and duration of the violation.

#### **Status of Mitigation Plan<sup>5</sup>**

TVA's Mitigation Plan to address its violation of FAC-003-1 R2 was submitted to SERC on May 16, 2011 stating it had been completed on October 1, 2010. The Mitigation Plan was accepted by SERC on May 31, 2011 and approved by NERC on August 5, 2011. The Mitigation Plan for this violation is designated as SERCMIT004525-1 and was submitted as non-public information to FERC on August 12, 2011 in accordance with FERC orders.

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<sup>5</sup> See 18 C.F.R § 39.7(d)(7).



TVA's Mitigation Plan required TVA to:

1. Perform an aerial re-inspection of all extra high voltage (EHV) lines;
2. Perform a ground inspection of known wetlands, stream crossings, ponds, and lakes on lines scheduled for the fiscal year 2010 that had not yet been completed, as well as lines scheduled for the fiscal year 2011;
3. Perform a detailed causal analysis of the incident;
4. Adjust the floor plan for EHV lines from a 36-month cycle to a 24-month cycle;
5. Implement an annual ground inspection for all EHV lines to be performed during the summer;
6. Adjust the annual aerial inspection for EHV lines to utilize a computer-based data collection system; and
7. Reorganize the ROW organization (line applied services) dividing the TVA service territory into East and West sectors, in order to increase staffing levels and provide increased oversight and maintenance of the vegetation management program.

TVA certified on June 8, 2011 that the above Mitigation Plan requirements were completed on October 1, 2010. As evidence of completion of its Mitigation Plan, TVA submitted the following:

1. An aerial inspection report and an attestation by the System Applied Maintenance Senior Manager that TVA performed an aerial inspection of all EHV lines;
2. A spreadsheet reflecting the completion of each ground inspection and an attestation by the System Applied Maintenance Senior Manager that TVA performed a ground inspection of all TVA EHV lines scheduled for floor work in fiscal year 2011 and the lines that remained to be completed in the fiscal year 2010;
3. A causal analysis report describing the location and circumstances of the tree contact, the probable circumstances leading to the contact, and the corrective measures taken;
4. The revised vegetation maintenance program, which includes annual ground inspections and a 2-year maintenance cycle; and
5. The new ROW Organization Chart that shows the addition of four positions to the System Applied Maintenance Organization.

On June 21, 2011, after reviewing TVA's submitted evidence, SERC verified that TVA's Mitigation Plan was completed on October 1, 2010.

## Statement Describing the Assessed Penalty, Sanction or Enforcement Action Imposed<sup>6</sup>

### 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, October 26, 2009 and August 27, 2010 Guidance Orders,<sup>7</sup> the NERC BOTCC reviewed the Settlement Agreement and supporting documentation on June 11, 2012. The NERC BOTCC approved the Settlement Agreement, including SERC's assessment of a one hundred seventy-five thousand dollar (\$175,000) financial penalty against TVA and other actions to facilitate future 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 violation at issue.

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

1. the violation constituted TVA's first occurrence of violation of the subject NERC Reliability Standard;<sup>8</sup>
2. TVA self-reported the violation;
3. SERC reported that TVA was cooperative throughout the compliance enforcement process;
4. TVA had a compliance program at the time of the violation which SERC considered a mitigating factor, as discussed above;
5. there was no evidence of any attempt to conceal a violation nor evidence of intent to do so or that the violation was intentional;

<sup>6</sup> See 18 C.F.R. § 39.7(d)(4).

<sup>7</sup> *North American Electric Reliability Corporation*, "Guidance Order on Reliability Notices of Penalty," 124 FERC ¶ 61,015 (2008); *North American Electric Reliability Corporation*, "Further Guidance Order on Reliability Notices of Penalty," 129 FERC ¶ 61,069 (2009); *North American Electric Reliability Corporation*, "Notice of No Further Review and Guidance Order," 132 FERC ¶ 61,182 (2010).

<sup>8</sup> TVA's other violations did not involve the same or similar NERC Reliability Standards. SERC200700019 and SERC200700090 were violations of PRC-005-1 R1 and R2, respectively, and were filed with the Commission in NP09-36-000 on September 25, 2009. SERC200900271 and SERC200900273, both PRC-005-1 R2.1 violations, were filed with the Commission in NP10-180-000 on September 30, 2010. SERC201000516, SERC201000517, SERC201000526, and SERC2011006541, violations of VAR-002-1.1a R1, VAR-002-1.1a R3, FAC-008-1 R1, and VAR-002-1.1b R3, respectively, were filed with the Commission on May 30, 2012.



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6. SERC determined that the violation posed a moderate risk and did not pose a serious or substantial risk to the reliability of the BPS, as discussed above; and
7. SERC reported that there were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

For the foregoing reasons, the NERC BOTCC approved the Settlement Agreement and believes that the assessed penalty of one hundred seventy-five thousand dollars (\$175,000) is appropriate for the violation and circumstances at issue, and is consistent with NERC's goal to promote and ensure reliability of the BPS.

Pursuant to 18 C.F.R. § 39.7(e), 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:

- a) Settlement Agreement by and between SERC and TVA executed June 13, 2012, included as Attachment a;
  - a. Disposition document, dated June 13, 2012, included as Attachment 1 to the Settlement Agreement, which also serves as SERC's Verification of Mitigation Plan completion;
- b) TVA's Self-Report for FAC-003-1 R2 dated August 11, 2010, included as Attachment b;
- c) TVA's Mitigation Plan designated as SERCMIT004525-1 for FAC-003-1 R2 submitted May 16, 2011, included as Attachment c; and
- d) TVA's Certification of Mitigation Plan Completion for FAC-003-1 R2 submitted June 8, 2011, included as Attachment d.

#### **A Form of Notice Suitable for Publication<sup>9</sup>**

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

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<sup>9</sup> See 18 C.F.R § 39.7(d)(6).

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

<p>Gerald W. Cauley President and Chief Executive Officer North American Electric Reliability Corporation 3353 Peachtree Road NE Suite 600, North Tower Atlanta, GA 30326-1001 (404) 446-2560</p> <p>David N. Cook* Senior Vice President and General Counsel North American Electric Reliability Corporation 1325 G Street N.W., Suite 600 Washington, D.C. 20005 (202) 400-3000 (202) 644-8099 – facsimile david.cook@nerc.net</p> <p>Robin E. Manning* Executive Vice President and Chief Energy Delivery Officer Tennessee Valley Authority 1101 Market Street -MR3H Chattanooga, TN 37402 (423) 751-6000 (423) 751-8352 - facsimile remanning@tva.gov</p>	<p>Rebecca J. Michael* Associate General Counsel for Corporate and Regulatory Matters North American Electric Reliability Corporation 1325 G Street, N.W. Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile rebecca.michael@nerc.net</p> <p>Marisa A. Sifontes* General Counsel Maggie A. Sallah* Senior Counsel SERC Reliability Corporation 2815 Coliseum Centre Drive, Suite 500 Charlotte, NC 28217 (704) 494-7775 (704) 357-7914 – facsimile msifontes@serc1.org msallah@serc1.org</p> <p>John R. Twitchell* VP and Chief Program Officer SERC Reliability Corporation 2815 Coliseum Centre Drive, Suite 500 Charlotte, NC 28217 (704) 940-8205 (704) 357-7914 – facsimile jtwitchell@serc1.org</p>
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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.

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**Conclusion**

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

Respectfully submitted,

/s/ Rebecca J. Michael

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cc: Tennessee Valley Authority  
SERC Reliability Corporation

Attachments

## **Attachment a**

**Settlement Agreement by and between SERC  
and TVA executed June 1, 2012**

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**SETTLEMENT AGREEMENT**  
**OF**  
**SERC RELIABILITY CORPORATION**  
**AND**  
**TENNESSEE VALLEY AUTHORITY**

**I. INTRODUCTION**

1. SERC Reliability Corporation (SERC) and Tennessee Valley Authority (TVA) enter into this Settlement Agreement (Settlement Agreement) to resolve all outstanding issues arising from a preliminary and non-public assessment resulting in SERC's determination and findings, pursuant to the North American Electric Reliability Corporation (NERC) Rules of Procedure, of one confirmed violation by TVA of NERC Reliability Standard FAC-003-1 R2 (SERC Issue Tracking No. SERC2010-400702; NERC Violation ID No.SERC201000598).
2. TVA admits the violation of NERC Reliability Standard FAC-003-1 R2 and has agreed to the proposed penalty of one hundred seventy-five thousand dollars (\$175,000) in addition to other remedies and actions to mitigate the instant violations and ensure future compliance under the terms and conditions of the Settlement Agreement.

**II. STIPULATION**

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

**Background**

4. See Section I of the Disposition document for a description of TVA.

**Violations of NERC Reliability Standard FAC-003-1 Requirement 2**

5. See Section II of the Disposition document for the description of the violation.

**III. PARTIES' SEPARATE REPRESENTATIONS**



### **Statement of SERC and Summary of Findings**

6. SERC finds that beginning on August 9, 2010 and continuing until the completion of TVA's line inspections on September 18, 2010, TVA, as a Transmission Owner, was in violation of FAC-003-1 R2 because the August 9, 2010 sustained outage was caused by vegetation contact resulting from the encroachment of native vegetation.
7. SERC staff concluded that the violation posed a moderate risk to the bulk power system (BPS), as discussed in the Disposition document.

### **Statement of TVA**

8. TVA admits that the facts set forth and agreed to by the parties for purposes of this Agreement constitute violation of FAC-003-1 R2.
9. TVA has agreed to enter into this Settlement Agreement with SERC to avoid extended litigation with respect to the matter described or referred to herein, to avoid uncertainty, and to effectuate a complete and final resolution of the issues set forth herein. TVA agrees that this Settlement Agreement is in the best interest of the parties and in the best interest of BPS reliability.

## **IV. MITIGATING ACTIONS, REMEDIES AND SANCTIONS**

10. SERC and TVA agree that TVA has completed and SERC has verified completion of the mitigating actions set forth in Section IV of the Disposition document. The Mitigating Actions, Remedies and Sanctions are discussed in detail in the Disposition document.
11. SERC also considered the specific facts and circumstances of the violation and TVA's actions in response to the 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 an entity to remedy the violation in a timely manner."<sup>1</sup> The factors considered by SERC in the determination of the appropriate penalty are set forth in Section V of the Disposition document.
12. Based on the above factors, as well as the mitigation actions and preventative measures taken, TVA shall pay one hundred seventy-five thousand dollars (\$175,000) to SERC as set forth in this Settlement Agreement. TVA shall remit the payment to SERC via check, or by wire transfer to an account to be identified by SERC within thirty days after the Agreement is either approved by the Federal Energy Regulatory Commission (Commission) or by operation of law. SERC shall

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<sup>1</sup> 16 U.S.C. § 824o(e)(6).

notify NERC, and NERC shall notify the Commission, if the payment is not timely received. If TVA does not remit the payment by the required date, interest payable to SERC will begin to accrue pursuant to the Commission's regulations at 18 C.F.R. §35.19a(a)(2)(iii) from the date that payment is due, and shall be payable in addition to the payment.

13. 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 Settlement Agreement shall be deemed to be either the same alleged violation that initiated this Settlement Agreement and/or additional violation(s) and may subject TVA to new or additional enforcement, penalty or sanction actions in accordance with the NERC Rules of Procedure. TVA shall retain all rights to defend against such additional enforcement actions in accordance with NERC Rules of Procedure.

## **V. ADDITIONAL TERMS**

14. The signatories to the Settlement Agreement agree that they enter into the Settlement 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 TVA has been made to induce the signatories or any other party to enter into the Settlement Agreement. The signatories agree that the terms and conditions of this Settlement Agreement are consistent with the Commission's regulations and orders, and NERC's Rules of Procedure.
15. 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 TVA 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 TVA 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 this Settlement Agreement.
16. This Settlement Agreement shall become effective upon the Commission's approval of the Settlement Agreement by order or operation of law as submitted to it or as modified in a manner acceptable to the parties.
17. TVA agrees that this Settlement Agreement, when approved by NERC and the Commission, shall represent a final settlement of all matters set forth herein and TVA waives its right to further hearings and appeal, unless and only to the extent that TVA contends that any NERC or Commission action on the Settlement Agreement contains one or more material modifications to the Settlement




Agreement. SERC reserves all rights to initiate enforcement, penalty or sanction actions against TVA in accordance with the NERC Rules of Procedure in the event that TVA does not comply with the Mitigation Plan and compliance program agreed to in this Settlement Agreement. In the event TVA fails to comply with any of the stipulations, remedies, sanctions or additional terms, as set forth in this Settlement Agreement, SERC will initiate enforcement, penalty, or sanction actions against TVA to the maximum extent allowed by the NERC Rules of Procedure, up to the maximum statutorily allowed penalty. Except as otherwise specified in this Settlement Agreement, TVA shall retain all rights to defend against such enforcement actions, also according to the NERC Rules of Procedure.

18. TVA consents to the use of SERC's determination, findings, and conclusions set forth in this Agreement for the purpose of assessing the factors, including the factor of determining the company's history of violations, in accordance with the NERC Sanction Guidelines and applicable Commission orders and policy statements. Such use may be in any enforcement action or compliance proceeding undertaken by NERC and/or any Regional Entity; provided, however, that TVA does not consent to the use of the specific acts set forth in this Agreement as the sole basis for any other action or proceeding brought by NERC and/or SERC, nor does TVA consent to the use of this Agreement by any other party in any other action or proceeding.
19. 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 Settlement Agreement on the entity's behalf.
20. The undersigned representative of each party affirms that he or she has read the Settlement Agreement, that all of the matters set forth in the Settlement Agreement are true and correct to the best of his or her knowledge, information and belief, and that he or she understands that the Settlement 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 Settlement Agreement.
21. The Settlement Agreement may be signed in counterparts.
22. This Settlement Agreement is executed in duplicate, each of which so executed shall be deemed to be an original.

Agreed to and accepted:

  
\_\_\_\_\_  
R. Scott Henry  
President and Chief Executive Officer  
**SERC RELIABILITY CORPORATION**

6/13/2012  
Date

  
\_\_\_\_\_  
Robin E. Manning  
Executive Vice President and  
Chief Energy Delivery Officer  
**TENNESSEE VALLEY AUTHORITY**

5-10-2012  
Date

**Disposition document, dated June % , 2012,  
which also serves as SERC's Verification of  
Mitigation Plan completion**

# **DISPOSITION OF VIOLATION<sup>1</sup>**

**June 13, 2012**

NERC TRACKING NO.      SERC TRACKING NO.

SERC201000598      SERC2010-400702

## **I. REGISTRATION INFORMATION**

ENTITY IS REGISTERED FOR THE FOLLOWING FUNCTIONS IN THE SERC  
REGION (BOTTOM ROW INDICATES REGISTRATION DATE):

BA	DP	GO	GOP	IA	LSE	PA	PSE	RC	RP	RSG	TO	TOP	TP	TSP
X	X	X	X	X	X	X		X	X		X	X	X	X
05/31/07	05/31/07	05/31/07	05/31/07	03/20/08	05/31/07	05/31/07		05/31/07	05/31/07		05/31/07	05/31/07	05/31/07	05/31/07

\* VIOLATION(S) APPLIES TO SHADED FUNCTION(S)

### DESCRIPTION OF THE REGISTERED ENTITY

TVA is a federally owned corporation that provides power to 155 power distributors and 56 direct-served customers in a service area that encompasses portions of seven southeastern states. TVA owns and operates approximately 34,000 MW of generating capacity and approximately 16,000 miles of transmission lines.

## **II. VIOLATION INFORMATION**

RELIABILITY STANDARD	REQUIREMENT(S)	SUB-REQUIREMENT(S)	VRF(S)	VSL(S)
FAC-003-1	2		High	Severe

### PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)

The purpose of FAC-003-1 provides: “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 transmission ROW, and reporting vegetation related outages of the transmission systems

<sup>1</sup> For purposes of this document and attachments hereto, each violation at issue is described as a “violation,” regardless of its procedural posture and whether it was a possible, alleged or confirmed violation.



to the respective Regional Reliability Organizations (RRO) and the North American Electric Reliability Council (NERC).”

FAC-003-1 provides:

**R2.** The 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 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.

#### VIOLATION DESCRIPTION

On August 10, 2010, TVA contacted SERC regarding a vegetation contact interruption, which resulted in a sustained outage of the Widows Creek to Madison 500 kV line on August 9, 2010. TVA submitted its Self-Report on August 11, 2010.

On August 11, 2010, a member of SERC met with TVA at the site of the outage in Stevenson, AL. SERC was provided with a short briefing by TVA and viewed the right of way where the outage occurred. TVA explained that after the relays automatically operated to interrupt the line, the breakers were manually closed in an attempt to return the line to service. However, the relays re-tripped the breaker, resulting in a failure to return the line to service. Due to the signature of the digital fault records, TVA personnel thought that the interruption was caused by avian roost fowling on an insulator rather than tree contact. TVA dispatched line crews in the afternoon on August 9, 2010, to determine the actual cause of the outage; crews failed to identify the cause prior to nightfall. Due to system topology and anticipated loading, TVA's Transmission Operator had determined that the extended outage of the line would have minimal impact on reliability of the Bulk Power System during the time TVA was investigating the cause of the fault. The following morning TVA crews found a tree with scorching and determined that this was the likely cause of the line interruption. TVA management was contacted and clearing crews were dispatched. The tree was a black willow tree located within the Right of Way (ROW) nearly directly under the “A” phase line, approximately 1/3 of the distance between the two tower structures.

At the site, SERC examined the black willow tree that had been cut and placed to side of the ROW. The tree showed characteristic charring and bark-splitting as well as a patch of burn area at the uppermost crown, which is consistent with high-voltage entering the uppermost area and travelling to ground at the base of the tree. The tree appeared to be

healthy prior to being damaged by contact with the transmission line. The uppermost portion of the crown was not brittle and still exhibited some flexibility, which is consistent with it having been alive at the time of the incident. The tree was approximately 37 feet tall with an approximate diameter of 6 inches.

In addition, the connected field and ROW appeared to have been mostly covered with low scrub and grasses prior to the post-outage clearing activities with the exception of the area immediately surrounding the subject tree. That area had additional woody growth, but from pictures provided by TVA, the subject tree was the lone vegetation sufficiently tall enough to result in the flash-over and subsequent outage. The soil appeared mostly dry except for a shallow gully directly adjacent to the stump of the black willow (approximately 3 to 4 ft between the stump and the shallow gully). Meteorological data obtained from internet sources indicated only trace amounts of rain in the 10 days prior to the incident. Since the temperatures had been in the upper to mid 90's for several days with only trace amounts of rain, the fact that the gully still exhibited moisture in the soil was a likely contributor to the high growth rate of the willow tree. TVA indicated that this area is classified as a wetland. Much of the ground had been disturbed due to clearing activities following the discovery of the proximity of the tree to the 500 kV line. The stump of the willow tree was heavily damaged by clearing activities making it difficult to discern the lean of the tree. Judging from the felled tree, SERC determined it was most likely nearly vertical. The stump was located within 3 feet of the centerline of the A-phase of the line in the outermost position on the tower. The ground around the stump was slightly higher than the surrounding area (< 2 feet) and was on the edge of the gully.

SERC observed that the ROW backs up to a church and a small residential dwelling. The field did not appear to be used by adjacent residents. The visible ROW east and west of the site appeared to be clear of any tall-growing vegetation that was threatening encroachment as did the few crossings observed during travel to and from the site.

According to TVA, the conditions specific to the line and location at the time of the event were:

- Line load ~ 5.4%
- Ambient Temperature near 100° F
- No wind reported
- Line Temp Estimate (TVA supplied) ~145° F
- Design Height of Conductor- 40 Ft
- Distance between Towers ~1000 ft
- Distance from Tower to location of black willow ~370 ft
- TVA Clearance 2 – 10 Ft

TVA's Vegetation Management Plan is based on a three-year floor clearing cycle with annual aerial inspections. Under this periodicity, it is possible for four growing seasons to occur between clearings if a section is cleared before the growing season of year one and after the growing season of year three. The subject section of the ROW was last cleared in January 2007 and was scheduled for clearing in 2010. At the time of the

outage, the subject section had not yet been cleared; therefore, almost four complete growing seasons had occurred between clearing activities on this particular ROW section. Additionally, the subject tree had four distinct growth-rings, which is consistent with it having been through 4 growing periods prior to the contact and flashover.

On August 19, 2010, a member of SERC conducted aerial observations of the lines representing the four ROW clearing cycles: completed in the current year, completed in the prior year, completed 2 years prior and scheduled in the current year. Based on its observations, SERC concluded that TVA had been executing its vegetation management plan as written.

SERC determined that TVA was in violation of FAC-003-1 R2 because the August 9, 2010 sustained outage was caused by vegetation contact resulting from the encroachment of native vegetation.

SERC assessed a Violation Severity Level (VSL) of "Severe" in accordance with the May 3, 2010 VSL matrix, because TVA did not implement an annual plan for vegetation management work to ensure the reliability of the system.

#### RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

SERC determined this violation posed a moderate risk to the reliability of the Bulk Power System (BPS) because:

1. The line loading was minimal and no system reconfiguration was necessary for TVA to continue reliable operations;
2. There were no Interconnection Reliability Operating Limit violations, generation re-dispatch, reduction of generation reserves, system-wide disturbances, or interruption in service to any customers as a result of the event;
3. TVA was operating consistent with the Reliability Standards to withstand a single contingency; therefore, the contact was within its planned operating conditions;
4. All evidence reviewed by SERC indicated that this incident was related to unusual site-specific conditions that led to the black willow sustaining a high growth rate throughout the intervening period between clearing activities; and
5. When TVA completed its line inspections, it found no other encroachments into Clearance 2 existed on its transmission system.

IS THERE A SETTLEMENT AGREEMENT      YES ☒      NO ☐

WITH RESPECT TO THE VIOLATION(S), REGISTERED ENTITY

NEITHER ADMITS NOR DENIES IT (SETTLEMENT ONLY)	YES	<input type="checkbox"/>
ADMITS TO IT	YES	<input checked="" type="checkbox"/>
DOES NOT CONTEST IT (INCLUDING WITHIN 30 DAYS)	YES	<input type="checkbox"/>

WITH RESPECT TO THE ASSESSED PENALTY OR SANCTION, REGISTERED ENTITY

ACCEPTS IT/ DOES NOT CONTEST IT	YES	<input checked="" type="checkbox"/>
---------------------------------	-----	-------------------------------------

**III. DISCOVERY INFORMATION****METHOD OF DISCOVERY**

SELF-REPORT	<input checked="" type="checkbox"/>
SELF-CERTIFICATION	<input type="checkbox"/>
COMPLIANCE AUDIT	<input type="checkbox"/>
COMPLIANCE VIOLATION INVESTIGATION	<input type="checkbox"/>
SPOT CHECK	<input type="checkbox"/>
COMPLAINT	<input type="checkbox"/>
PERIODIC DATA SUBMITTAL	<input type="checkbox"/>
EXCEPTION REPORTING	<input type="checkbox"/>

**DURATION DATE(S)**

8/9/10 (when the contact and outage occurred) through 10/1/10 (Mitigation Plan completion)

IS THE VIOLATION STILL OCCURRING      YES ☐      NO ☒  
IF YES, EXPLAIN

REMEDIAL ACTION DIRECTIVE ISSUED      YES ☐      NO ☒  
PRE TO POST JUNE 18, 2007 VIOLATION      YES ☐      NO ☒

**IV. MITIGATION INFORMATION**

FOR FINAL ACCEPTED MITIGATION PLAN for FAC-003-1 R2 violation:

MITIGATION PLAN NO.	SERCMIT004525-1
DATE SUBMITTED TO REGIONAL ENTITY	5/16/11
DATE ACCEPTED BY REGIONAL ENTITY	5/31/11
DATE APPROVED BY NERC	8/5/11
DATE PROVIDED TO FERC	8/12/11

IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED      YES ☒      NO ☐

EXPECTED COMPLETION DATE Submitted as complete  
EXTENSIONS GRANTED  
ACTUAL COMPLETION DATE      10/1/10

DATE OF CERTIFICATION LETTER      6/8/11  
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF      10/1/10

VERIFIED COMPLETE BY REGIONAL ENTITY AS OF      6/21/11

## ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE

TVA completed the following actions detailed in its Mitigation Plan:

1. Performed an aerial re-inspection of all extra high voltage (EHV) lines.
2. Performed a ground inspection of known wetlands, stream crossings, ponds and lakes on lines scheduled for the fiscal year 2010 that had not yet been completed as well as lines scheduled for the fiscal year 2011.
3. Performed a detailed causal analysis of the incident.
4. Adjusted the floor plan for EHV lines from a 36 month cycle to a 24 month cycle.
5. Implemented an annual ground inspection for all EHV lines.

## LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO EVALUATE COMPLETION OF MITIGATION PLAN OR MILESTONES (FOR CASES IN WHICH MITIGATION IS NOT YET COMPLETED, LIST EVIDENCE REVIEWED FOR COMPLETED MILESTONES)

TVA submitted the following as evidence of completion of its Mitigation Plan:

1. An aerial inspection report and an attestation by the System Applied Maintenance Senior Manager that TVA performed an aerial inspection of all EHV lines.
2. A spreadsheet reflecting the completion of each ground inspection and an attestation by the System Applied Maintenance Senior Manager that TVA performed a ground inspection of all TVA EHV lines scheduled for floor work in fiscal year 2011 and the lines that remained to be completed in the fiscal year 2010.
3. A causal analysis report describing the location and circumstances of the tree contact, the probable circumstances leading to the contact, and the corrective measures taken.
4. The revised vegetation maintenance program, which includes annual ground inspections and a 2-year maintenance cycle.
5. The new ROW Organization Chart that shows the addition of four positions to the System Applied Maintenance Organization.

**V. PENALTY INFORMATION**

**TOTAL ASSESSED PENALTY OR SANCTION OF ONE HUNDRED SEVENTY-FIVE THOUSAND DOLLARS (\$175,000) FOR ONE VIOLATION OF RELIABILITY STANDARDS.**

**(1) REGISTERED ENTITY'S COMPLIANCE HISTORY**

**PREVIOUSLY FILED VIOLATIONS OF ANY OF THE INSTANT RELIABILITY STANDARD(S) OR REQUIREMENT(S) THEREUNDER IN THE SERC REGION**

**YES ☐ NO ☒**

**LIST VIOLATIONS AND STATUS**

**ADDITIONAL COMMENTS**

**PREVIOUSLY FILED VIOLATIONS OF OTHER RELIABILITY STANDARD(S) OR REQUIREMENTS THEREUNDER IN THE SERC REGION**

**YES ☒ NO ☐**

**LIST VIOLATIONS AND STATUS**

SERC200700019 and SERC200700090 (PRC-005-1 R1 and PRC-005-1 R2 violations) were filed with the Commission in NP09-36-000 on September 25, 2009. The Commission issued its Notice on October 23, 2009, stating it would take no further action.

SERC200900271 and SERC200900273 (both PRC-005-1 R2.1 violations) were filed with the Commission in Notice of Penalty (NP) 10-180-000 on September 30, 2010. The Commission issued its Notice on October 29, 2010, stating it would take no further action.

[REDACTED]

SERC201000516, SERC201000517, SERC201000526 and SERC2011006541 (VAR-002-1.1a R1 and R3, FAC-008 R1 and VAR-002-1.1b R3 violations, respectively) were filed with the Commission on May 30, 2012 in NP12-27-000.

**ADDITIONAL COMMENTS**



(2) THE DEGREE AND QUALITY OF COOPERATION BY THE REGISTERED ENTITY (IF THE RESPONSE TO FULL COOPERATION IS “NO,” THE ABBREVIATED NOP FORM MAY NOT BE USED.)

FULL COOPERATION YES ☒ NO ☐  
IF NO, EXPLAIN

(3) THE PRESENCE AND QUALITY OF THE REGISTERED ENTITY’S COMPLIANCE PROGRAM

IS THERE A DOCUMENTED COMPLIANCE PROGRAM  
YES ☒ NO ☐  
EXPLAIN

Based on TVA’s June 30, 2011 responses to SERC’s Compliance Culture Questionnaire, its documented compliance program, *NERC Reliability Standards Compliance*, was initially approved in July 2008 and was developed to formally establish the structure of TVA’s compliance program. TVA’s compliance program is disseminated to all business units responsible for compliance with NERC Standards. The existence of TVA’s compliance program was a mitigating factor in determining the penalty.

EXPLAIN SENIOR MANAGEMENT’S ROLE AND INVOLVEMENT WITH RESPECT TO THE REGISTERED ENTITY’S COMPLIANCE PROGRAM, INCLUDING WHETHER SENIOR MANAGEMENT TAKES ACTIONS THAT SUPPORT THE COMPLIANCE PROGRAM, SUCH AS TRAINING, COMPLIANCE AS A FACTOR IN EMPLOYEE EVALUATIONS, OR OTHERWISE.

Based on TVA’s June 30, 2011 responses to SERC’s Compliance Culture Questionnaire, TVA’s Chief Operating Officer (COO) approves and is responsible for the compliance program. TVA’s Vice-President of Transmission Planning & Compliance oversees the management and operation of the compliance program. The COO reports to the CEO and has direct access to TVA’s Board of Directors. The Reliability Standards Compliance Oversight Group, which provides guidance and oversight of TVA’s reliability standards compliance program, meets monthly and is comprised of vice-presidents and senior management.

(4) ANY ATTEMPT BY THE REGISTERED ENTITY TO CONCEAL THE VIOLATION(S) OR INFORMATION NEEDED TO REVIEW, EVALUATE OR INVESTIGATE THE VIOLATION.

YES ☐ NO ☒  
IF YES, EXPLAIN

(5) ANY EVIDENCE THE VIOLATION(S) WERE INTENTIONAL (IF THE RESPONSE IS "YES," THE ABBREVIATED NOP FORM MAY NOT BE USED.)

YES ☐ NO ☒  
IF YES, EXPLAIN

(6) ANY OTHER MITIGATING FACTORS FOR CONSIDERATION

YES ☐ NO ☒  
IF YES, EXPLAIN

(7) ANY OTHER AGGRAVATING FACTORS FOR CONSIDERATION

YES ☐ NO ☒  
IF YES, EXPLAIN

(8) ANY OTHER EXTENUATING CIRCUMSTANCES

YES ☐ NO ☒  
IF YES, EXPLAIN

OTHER RELEVANT INFORMATION:

NOTICE OF ALLEGED VIOLATION AND PROPOSED PENALTY OR  
SANCTION ISSUED

DATE: OR N/A ☒

SETTLEMENT DISCUSSIONS COMMENCED

DATE: 7/19/11 OR N/A ☐

NOTICE OF CONFIRMED VIOLATION ISSUED

DATE: OR N/A ☒

SUPPLEMENTAL RECORD INFORMATION

DATE(S) OR N/A ☒

REGISTERED ENTITY RESPONSE CONTESTED

FINDINGS ☐ PENALTY ☐ BOTH ☐ NO CONTEST ☒

HEARING REQUESTED

YES ☐ NO ☒

DATE

OUTCOME

APPEAL REQUESTED

SETTLEMENT AGREEMENT BETWEEN SERC AND TVA, executed June 13,  
2012

EXHIBITS:

SOURCE DOCUMENTS

TVA Self-Report dated 8/10/10

MITIGATION PLAN

TVA Mitigation Plan submitted on 5/16/11

CERTIFICATION BY REGISTERED ENTITY

TVA Certification of Mitigation Plan Completion dated 6/8/11

VERIFICATION BY REGIONAL ENTITY

This Disposition document serves as SERC's verification of the completed Mitigation Plan.

## **Attachment b**

**TVA's Self-Report for FAC-003-1 R2 dated  
August 11, 2010**

---

Logged in as:

Sharon Solochier

Log Out

- System Administration
- Committees
- Compliance
- Self Reports
- Complaints
- TFE Request
- Data Reporting
- Mitigation Plans
- Violation Retractions
- Reliability Assessments
- Plants/Generators Surveys
- Recommendations Meetings

## Self Report Form - 2010

 Save PDF | Return To Search Results

**This form has been locked.**

**If you need to edit data contained in this form, please contact your SERC Administrator.**

**This form was submitted on 8/11/2010.**

\* Required Fields

Status: Read Only

Region: SERC

NERC Registry ID: NCR01151

Joint Registration Organization (JRO) ID:

Registered Entity: Tennessee Valley Authority

Registered Entity Contact Information:

\* Richard Dearman (redearman@tva.gov) (256) 851-3523

Standard Applicable to Self-Report: FAC-003-1

Requirement Applicable to Self-Report: R2.

Sub Requirements Applicable to Self-Report:

Function Applicable to Self-Report: TO

Has this possible alleged violation previously been reported or discovered: \* ☒ Yes ☐ No

Provide NERC Violation ID (If known):

Date violation occurred: \* 8/9/2010

Date violation discovered: \* 8/10/2010

Is the violation still occurring? \* ☒ Yes ☐ No

Detail explanation and cause of violation: \*

A 37'4" tall black willow grew up under a phase conductor and caused a sustained outage to the Widows Creek - Madison 500 KV line

Reliability Impact: \* Minimal

Reliability Impact Description: \*

No load or generation was lost, an investigation is in progress.

### Additional Comments:

I contacted Mark Ladrow on 08/10-2010 and he sent me an email with an attachment requesting additional information. A full site visit with SERC staff (Mark Ladrow) was conducted on 8/11/2010. I will continue to work with Mark on this event.

**NOTE:** While submittal of a mitigation plan is not required until after a determination of a violation is confirmed, early submittal of a mitigation plan to address and remedy an identified deficiency is encouraged.

Submittal of a mitigation plan shall not be deemed an admission of a violation. (See NERC Rules of Procedure, Appendix 4C, Section 6.4.)

 [Submit Self Report](#)

 [Save PDF](#) | [Return To Search Results](#)



## **Attachment c**

**TVA's Mitigation Plan designated as  
SERCMIT004525-1 for FAC-003-1 R2  
submitted May 16, 2011**

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Logged in as:

Tracy Flippo

Log Out

## Edit - Mitigation Plan

 Save PDF | [Return To Search Results](#) | [Mitigation Plan Closure](#) | [Create Revision](#)

 Original Mitigation Plan

\* Required Fields

Status: Saved

### Mitigation Plan Summary

Mitigation Plan Status:	Region reviewing Mitigation Plan
NERC Mitigation Plan #:	
Associated Violations:	SERC201000598
Mitigation Plan Due Date:	
Expected Completion Date:	10/1/2010




### Section A: Compliance Notices & Mitigation Plan Requirements


- A.1 Notices and requirements applicable to Mitigation Plans and this Submittal Form are set forth in "Attachment A - Compliance Notices & Mitigation Plan Requirements" to this form.
- A.2 ☐ I have reviewed Attachment A and understand that this Mitigation Plan Submittal Form will not be accepted unless this box is checked.

### Section B: Registered Entity Information



- B.1 Identify your organization
- Company Name: Tennessee Valley Authority  
Company Address: 1101 Market St. - MR 3H  
Chattanooga, Tennessee  
37402  
NERC Compliance Registry ID: NCR01151
- B.2 Identify the individual in your organization who will be the Entity Contact regarding this Mitigation Plan.
- Name: \*  |  
E-Mail: wddavidson@tva.gov

### Section C: Identification of Alleged or Confirmed Violation(s) Associated with this Mitigation Plan

- C.1 This Mitigation Plan is associated with the following Alleged or Confirmed violation(s) of the reliability standard listed below. 
- Applicable Standard, Requirement(s) and Date Reported to Region:
- Standard:  
- ☐ FAC-003-1 R2. (08/11/2010)
- C.2 Identify the cause of the Alleged or Confirmed violation(s) identified above. 
- Additional detailed information may be provided as an attachment:
- \* On 08/09/2010 @ 1357 CPT there was a sustained outage on the Widows Creek - Madison 500kV transmission line that was due to a Willow tree growing from underneath and approaching the A-phase conductor between structures 51 and 52. The causal analysis revealed a failed barrier. Based on the potential growth rate of Black Willows, they can grow to a problematic height during the existing program three year floor cycle. This particular tree appears to have grown approximately eight to twelve feet per year. The casual analysis results also indicate that while the annual inspection is designed to identify problematic areas, this tree was not identified by the inspection. This is possibly due to depth perception issues that are common to aerial inspections.


C.3	Provide any additional relevant information regarding the Alleged or Confirmed violations associated with this Mitigation Plan. Additional detailed information may be provided as an attachment:	
	<ul style="list-style-type: none"> <li>•The tree height was 37' 4".</li> <li>•The conductor height with zero load was 38' 11".</li> <li>•The tree was located in a wetland along a main flow channel within the wetland that contributed to a more than normal growth rate.</li> <li>•The aerial inspections conducted in May 2009, and May 2010 did not identify the area as a problem.</li> <li>•This line was scheduled for FY10 floor work.</li> <li>* •The span (61-41) was last mowed by DF&amp;K (contractor) during week of 01/07/2007 [Invoice 1-07-0598], WO # 06-034874-000.</li> <li>•Research and interviews with the ROW Specialist and the Contractor that performed the floor work, and inspection reports confirm that the vegetation at the site of this tree was cut during the scheduled maintenance in January 2007.</li> <li>•The tree was determined to have four growth rings. TVA is in the process of obtaining the services of an independent entity to perform an assessment relative to the environmental factors of the event site and the rapid growth of this tree.</li> </ul>	

#### Section D: Details of Proposed Mitigation Plan

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 Alleged or Confirmed violations identified above in Part C.1 of this form. Additional detailed information may be provided as an attachment:																															
	<ul style="list-style-type: none"> <li>•Adjust the floor plan for EHV Lines from the existing 36 month cycle to a 24 month cycle with implementation beginning October 1, 2010.</li> <li>•Adjust the annual aerial inspection for EHV Lines to utilize a computer based data collection system.</li> <li>* •Implement an annual ground inspection of all EHV Lines to be performed during the summer.</li> <li>The inspection team will be able to document and address most issues identified as the inspection is being performed.</li> <li>•Reorganized the ROW Organization (Line Applied Services) dividing the TVA Service Territory into East and West Sectors. Increased staffing levels to provide increased oversight and maintenance of the vegetation Management Program.</li> </ul>																															
D.2	Provide the date by which full implementation of the Mitigation Plan will be, or has been, completed with respect to the Alleged or Confirmed violations identified above. State whether the Mitigation Plan has been fully implemented:																															
	* 10/1/2010 																															
D.3	Enter Milestone Activities, with due dates, that your organization is proposing, or has completed, for this Mitigation Plan:																															
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#### Section E: Interim and Future Reliability Risk

##### Abatement of Interim BPS Reliability Risk

E.1	While your organization is implementing this Mitigation Plan the reliability of the Bulk Power System (BPS) 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 to mitigate this increased risk to the reliability of the BPS. Additional detailed information may be provided as an attachment:	
	<ul style="list-style-type: none"> <li>* TVA has performed a complete aerial reinspection of all EHV lines and a ground inspection of lines with similar vegetation growth potential to ensure no conditions exist that would adversely impact the reliability of the BPS.</li> </ul>	

##### Prevention of Future BPS Reliability Risk

E.2	Describe how successful completion of this Mitigation Plan will prevent or minimize the	
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probability that your organization incurs further risk of Alleged violations of the same or similar reliability standards requirements in the future.

Additional detailed information may be provided as an attachment:



\*

By reducing maintenance cycle time from three year to two year, TVA has reduced the number of growing seasons per cycle. By conducting an annual ground inspection in conjunction with the existing aerial inspection, TVA has increased the number and type of inspections.

Reorganizing the ROW Organization by dividing the TVA Service Territory into East and West Sectors and increasing staffing levels will provide increased oversight and maintenance of the vegetation Management Program over a more manageable amount of corridor miles.

## 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 this Mitigation Plan for acceptance by **SERC** and approval by NERC, and
- b) If applicable, certifies that this Mitigation Plan was completed on or before the date provided as the 'Date of Completion of the Mitigation Plan' on this form, and
- c) Acknowledges:
  1. I am **Tracy Flippo** of **Tennessee Valley Authority**
  2. I am qualified to sign this Mitigation Plan on behalf of **Tennessee Valley Authority**
  3. I understand **Tennessee Valley Authority'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 this Mitigation Plan
  5. **Tennessee Valley Authority** agrees to comply with, this Mitigation Plan, including the timetable completion date, as accepted by **SERC** and approved by NERC

**Authorized Signatory Tracy Flippo notified on 5/10/2011**

**Signed By Tracy Flippo on 5/16/2011**

## Section G: Regional Entity Contact

Please direct any questions regarding completion of this form to:

John Wolfmeyer  
SERC Compliance Engineer  
SERC Reliability Corporation  
704-940-8216  
jwolfmeyer@serc1.org



[Save PDF](#) | [Return To Search Results](#) | [Mitigation Plan Closure](#) | [Create Revision](#)

## **Attachment d**

### **TVA's Certification of Mitigation Plan Completion for FAC-003-1 R2 submitted June 8, 2011**

Logged in as:

Tracy Flippo

Log Out

Edit



Save PDF | Return to Mitigation Plan

\* Required Fields

Status: Saved

All Mitigation Plan Completion Certification submittals shall include data or information sufficient for SERC to verify completion of the Mitigation Plan. SERC may request such additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6) Data or information submitted may become part of a public record upon final disposition of the possible violation, therefore any confidential information contained therein should be marked as such in accordance with the provisions of Section 1500 of the NERC Rules of Procedure.

Name of Registered Entity submitting certification: **Tennessee Valley Authority**

Date of Certification: 06/08/2011

Name of Standard of mitigation violation(s): FAC-003-1

Mitigated information:

Requirement	Tracking Number	Violation ID
R2.	SERC2010-400702	SERC201000598

Date of completion of the Mitigation Plan:

10/1/2010



Summary of all actions described in Part D of the releveant mitigation plan:

- Adjust the floor plan for EHV Lines from the existing 36 month cycle to a 24 month cycle with implementation beginning October 1, 2010.
- Adjust the annual aerial inspection for EHV Lines to utilize a computer based data collection system.
- Implement an annual ground inspection of all EHV Lines to be performed during the summer. The inspection team will be able to document and address most issues identified as the inspection is being performed.
- Reorganized the ROW Organization (Line Applied Services) dividing the TVA Service Territory into East and West Sectors. Increased staffing levels to provide increased oversight and maintenance of the vegetation Management Program.

Description of the information provided to SERC for their evaluation:

The evidence provided describes the casual analysis performed and corrective actions taken to prevent recurrence per the Mitigation Plan Milestones previously submitted.

Authorized Signatory Tracy Flippo notified on 6/8/2011

Signed By Tracy Flippo on 6/8/2011

# **Attachment e**

## **Notice of Filing**

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Tennessee Valley Authority

Docket No. NP12-\_\_\_\_-000

NOTICE OF FILING  
June 29, 2012

Take notice that on June 29, 2012, the North American Electric Reliability Corporation (NERC) filed a Notice of Penalty regarding Tennessee Valley Authority 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](mailto:FERCOnlineSupport@ferc.gov), or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: [BLANK]

Kimberly D. Bose,  
Secretary