

June 27, 2019

VIA ELECTRONIC FILING

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

Re: **NERC Full Notice of Penalty regarding Big Rivers Electric
Corporation, FERC Docket No. NP19-_-000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty¹ regarding Big Rivers Electric Corporation (BREC), NERC Registry ID# NCR01180,² with information and details regarding the nature and resolution of the violation³ discussed in detail in the Settlement Agreement attached hereto (Attachment 1), 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)).⁴

NERC is filing this Notice of Penalty with the Commission because SERC Reliability Corporation (SERC) and BREC have entered into a Settlement Agreement to resolve all outstanding issues arising from SERC's determination and findings of the violation of NERC Reliability Standard FAC-003-4 R2.

According to the Settlement Agreement, BREC neither admits nor denies the violation, but has agreed to the assessed penalty of one hundred and twenty thousand dollars (\$120,000), in addition to other

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 (2017). *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 BREC was included on the NERC Compliance Registry as a Balancing Authority (BA), Generator Owner (GO), Resource Planner (RP), Transmission Owner (TO), Transmission Operator (TOP), and Transmission Planner (TP) on May 31, 2007, as a Distribution Provider (DP) on January 23, 2009, and as a Generator Operator (GOP) on July 17, 2009.

³ 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.

⁴ See 18 C.F.R § 39.7(c)(2) and 18 C.F.R § 39.7(d).

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remedies and actions to mitigate the instant violation and facilitate future compliance under the terms and conditions of the Settlement Agreement.

Statement of Findings Underlying the Violation

This Notice of Penalty incorporates the findings and justifications set forth in the Settlement Agreement by and between SERC and BREC. 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 (2019), NERC provides the following summary table identifying the violation of a Reliability Standard resolved by the Settlement Agreement. Further information on the subject violation is set forth in the Settlement Agreement and herein.

Violation(s) Determined and Discovery Method								
*SR = Self-Report / PDS = Periodic Data Submittal / CA = Compliance Audit								
NERC Violation ID	Standard	Req.	VRF/ VSL	Applicable Function(s)	Discovery Method* Date	Violation Start-End Date	Risk	Penalty Amount
SERC2018019861	FAC-003-4	R2	High/ High	TO	SR 6/13/2018	5/27/2018- 6/7/2018	Serious	\$120,000

BREC is a member-owned, not-for-profit, generation and transmission cooperative that provides wholesale electric power and services to three distribution cooperative members across 22 counties in western Kentucky. BREC owns 445 miles of transmission and over 1,900 MW of generation.

FAC-003-4 R2 - OVERVIEW

On June 7, 2018, a momentary interruption occurred on a 345 kV line due to a four-foot encroachment of the Minimum Vegetation Clearance Distance (MVCD). Upon investigation of the interruption, BREC found a fast-growing tree beneath the line and observed a burned branch shoot near the top of the tree. After completing calculations, BREC determined that the top of the tree was not directly under the line and appeared to be outside the MVCD; however, due to the location of the burn on the tree, BREC concluded that a small branch shoot growing toward the phase conductors likely encroached four feet into the MVCD and burned clear.

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The violation was caused by a deficient Transmission Vegetation Management Program (TVMP). While BREC had completed ground and aerial inspections of this line segment on January 24, 2018, and April 9, 2018, respectively, and had not observed any encroachments, its TVMP did not require annual inspections at a time of year when foliage was present on the tree. Additionally, the TVMP did not require an inspector to focus solely on vegetation when performing aerial inspections.

SERC determined that this violation posed a serious and substantial risk to the reliability of the bulk power system (BPS). The violation involved a failure to maintain properly the vegetation in transmission rights-of-way, increasing the risk of vegetation-caused outages and creating the potential for cascading outages. The risk was elevated because the violation caused a momentary outage on a 345 kV transmission line. Additionally, BREC had performed two prior inspections and failed to remove a fast-growing tree from the right-of-way, indicating an unacceptable deficiency in its TVMP. Attachment 1 includes the facts regarding the violation that SERC considered in its risk assessment.

BREC submitted its Mitigation Plan to address the referenced violation. Attachment 1 includes a description of the mitigation activities BREC took to address this violation. A copy of the Mitigation Plan is included as Attachment 3.

BREC certified that it had completed all mitigation activities. SERC verified that BREC had completed all mitigation activities as of August 13, 2018. Attachments 1 and 4 provide specific information on SERC's verification of BREC's completion of the activities.

Regional Entity's Basis for Penalty

According to the Settlement Agreement, SERC has assessed a penalty of one hundred and twenty thousand dollars (\$120,000) for the referenced violation. In reaching this determination, SERC considered the following factors:

1. The instant violation constitutes BREC's first occurrence of violation of the subject NERC Reliability Standard;
2. BREC had an internal compliance program at the time of the violation which SERC considered a neutral factor, as discussed in Attachment 1;
3. BREC self-reported the violation;
4. BREC was cooperative throughout the compliance enforcement process;
5. There was no evidence of any attempt to conceal a violation nor evidence of intent to do so;

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6. The violation posed a serious and substantial risk to the reliability of the BPS, as discussed in Attachment 1; and
7. 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 and twenty thousand dollars (\$120,000) is appropriate and bears a reasonable relation to the seriousness and duration of the violation.

Statement Describing the Assessed Penalty, Sanction, or Enforcement Action Imposed⁵

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,⁶ the NERC BOTCC reviewed the Settlement Agreement and supporting documentation on June 18, 2019 and approved the resolution between SERC and BREC. In approving the Settlement Agreement, the NERC BOTCC reviewed the applicable requirements of the Commission-approved Reliability Standard and the underlying facts and circumstances of the violation at issue.

In reaching this determination, the NERC BOTCC considered the factors listed above.

For the foregoing reasons, the NERC BOTCC approved the Settlement Agreement and believes that the assessed penalty of one hundred and twenty thousand dollars (\$120,000) 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.

⁵ See 18 C.F.R. § 39.7(d)(4).

⁶ *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).

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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:

1. Settlement Agreement by and between SERC and BREC executed April 30, 2019, included as Attachment 1;
2. BREC's Self-Report dated June 13, 2018, included as Attachment 2;
3. BREC's Mitigation Plan designated as SERCMIT014337 for FAC-003-4 R2 submitted June 13, 2018 included as Attachment 3;
4. BREC's Certification of Mitigation Plan Completion for FAC-003-4 R2 submitted August 16, 2018, included as Attachment 4; and
5. SERC's Verification of Mitigation Completion for FAC-003-4 R2 dated June 18, 2019, included as Attachment 5.

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

<p>Jason Blake* President and Chief Executive Officer SERC Reliability Corporation 3701 Arco Corporate Drive, Suite 300 Charlotte, NC 28273 (704) 940-8204 jblake@serc1.org</p> <p>Jimmy C. Cline* Managing Counsel – Enforcement SERC Reliability Corporation 3701 Arco Corporate Drive, Suite 300 Charlotte, NC 28273 (704) 414-5259 (704) 357-7914 – facsimile jmcgrane@serc1.org</p> <p>Drew R. Slabaugh* Legal Counsel SERC Reliability Corporation 3701 Arco Corporate Drive, Suite 300 Charlotte, NC 28273 (704) 414-5244 dslabaugh@serc1.org</p> <p>Holly Hawkins* General Counsel SERC Reliability Corporation 3701 Arco Corporate Drive, Suite 300 Charlotte, NC 28273 704-494-7775 hhawkins@serc1.org</p>	<p>Edwin G. Kichline* Senior Counsel and Director of Enforcement Oversight North American Electric Reliability Corporation 1325 G Street NW Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile edwin.kichline@nerc.net</p> <p>Jill Goatcher* Associate Counsel North American Electric Reliability Corporation 1325 G Street NW Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile jill.goatcher@nerc.net</p>
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Michael Chambliss*
Vice President System Operations
Big Rivers Electric Corporation
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(270) 844-6205
michael.chambliss@bigrivers.com

Laura Chambliss*
Managing Director Legal Affairs-Production &
Admin Services
Big Rivers Electric Corporation
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Henderson, KY 42420
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laura.chambliss@bigrivers.com

*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/ Jill Goatcher
Edwin G. Kichline
Senior Counsel and Director of
Enforcement Oversight
Jill Goatcher
Associate Counsel
North American Electric Reliability
Corporation
1325 G Street NW
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edwin.kichline@nerc.net
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cc: Big Rivers Electric Corporation
SERC Reliability Corporation

Attachments

Attachment 1

Settlement Agreement by and between
SERC and BREC executed April 30, 2019

SETTLEMENT AGREEMENT
AMONG SERC RELIABILITY CORPORATION
AND
BIG RIVERS ELECTRIC CORPORATION ¹

I. INTRODUCTION

1. SERC Reliability Corporation (SERC) and Big Rivers Electric Corporation (BREC) enter into this Settlement Agreement (Agreement) to resolve one Alleged Violation by BREC of the below-referenced Reliability Standard and Requirement.

Reliability Standard	Requirement	SERC Tracking No.	NERC Tracking No.
FAC-003-4	R2	SERC2018-403097	SERC2018019861

2. The Parties stipulate to the facts in this Agreement for the sole purpose of resolving the Alleged Violation. BREC neither admits nor denies that these facts constitute an Alleged Violation of the above-referenced Reliability Standard Requirement.

II. OVERVIEW OF BREC

3. BREC is a member-owned, not-for-profit, generation and transmission cooperative with 445 miles of transmissions line and a total generation capacity of 1,904 MW. BREC provides wholesale electric power and services to three distribution cooperative members across 22 counties in western Kentucky.
4. BREC is registered on the NERC Compliance Registry as a Balancing Authority, Distribution Provider, Generator Owner, Generator Operator, Resource Planner, Transmission Owner (TO), Transmission Operator, and Transmission Planner. BREC, in its capacity as a TO, is subject to compliance with FAC-003-4.

III. ADJUSTMENT FACTORS

5. In addition to the facts and circumstances stated above, SERC considered the following factors in its penalty determination.

¹ NERC Registry ID No. NCR01180

Self-Identification and Self-Reporting

6. BREC self-reported the Alleged Violation at issue. Therefore, SERC applied mitigating credit for self-reporting.

Internal Compliance Program

7. SERC reviewed BREC's internal compliance program (ICP) and considered it to be a neutral factor in the penalty determination. BREC's ICP is available to all employees via its intranet website. BREC's compliance program is based on decentralized compliance responsibilities with centralized support. The centralized support is provided by its Energy Control Department through the Director Energy Control & Compliance, one Compliance Specialist, and one CIP Coordinator (reporting to the Director Information Systems). The Director Energy Control & Compliance reports directly to the Vice President System Operations. The Vice President System Operations reports directly to the Chief Executive Officer who reviews and approves the ICP.

Cooperation

8. BREC has been forthright and cooperative throughout the enforcement process. BREC's responses to requests for information were timely and the information was detailed and thorough. To encourage such cooperation by BREC, and other Registered Entities, SERC found BREC's cooperation to be a mitigating factor in the penalty determination.

Compliance History

9. SERC considered BREC's compliance history and determined there were no relevant instances of noncompliance.

IV. PENALTY

10. Based upon the foregoing, BREC shall pay a monetary penalty of **\$120,000** to SERC.
11. SERC shall present an invoice to BREC within 20 days after the Agreement is approved by the Commission or affirmed by operation of law. Upon receipt, BREC shall have 30 days to remit payment. SERC will notify NERC if it does not timely receive the payment from BREC.
12. If BREC fails to timely remit the monetary penalty payment to SERC, interest will commence to accrue on the outstanding balance, pursuant to 18 C.F.R. § 35.19a (a)(2)(iii), on the earlier of (a) the 31st day after the date on the invoice issued by SERC to BREC for the monetary penalty payment or (b) the 51st day after the Agreement is approved by the Commission or operation of law.

V. ADDITIONAL TERMS

13. The Parties agree that this Agreement is in the best interest of Bulk Electric System reliability. The terms and conditions of the Agreement are consistent with the regulations and orders of the Commission and the NERC Rules of Procedure.
14. SERC shall report the terms of all settlements of compliance matters to NERC. NERC will review the Agreement for the purpose of evaluating its consistency with other settlements entered into for similar violations or under similar circumstances. Based on this review, NERC will either approve or reject this Agreement. If NERC rejects the Agreement, NERC will provide specific written reasons for such rejection and SERC will attempt to negotiate with BREC a revised settlement agreement that addresses NERC's concerns. If a settlement cannot be reached, the enforcement process will continue to conclusion. If NERC approves the Agreement, NERC will (a) report the approved settlement to the Commission for review and approval by order or operation of law and (b) publicly post the Alleged Violation and the terms provided for in this Agreement.
15. This Agreement binds the Parties upon execution, and may only be altered or amended by written agreement executed by the Parties. BREC expressly waives its right to any hearing or appeal concerning any matter set forth herein, unless and only to the extent that BREC contends that any NERC or Commission action constitutes a material modification to this Agreement.
16. SERC reserves all rights to initiate enforcement action against BREC in accordance with the NERC Rules of Procedure in the event that BREC fails to comply with any of the terms or conditions of this Agreement. BREC retains all rights to defend against such action in accordance with the NERC Rules of Procedure.
17. BREC consents to SERC's future use of this Agreement for the purpose of assessing the factors within the NERC Sanction Guidelines and applicable Commission orders and policy statements, including, but not limited to, the factor evaluating BREC's violation history. Such use may be in any enforcement action or compliance proceeding undertaken by NERC or any Regional Entity or both, provided however that BREC does not consent to the use of the conclusions, determinations, and findings set forth in this Agreement as the sole basis for any other action or proceeding brought by NERC or any Regional Entity or both, nor does BREC consent to the use of this Agreement by any other party in any other action or proceeding.
18. BREC affirms that all of the matters set forth in this Agreement are true and correct to the best of its knowledge, information, and belief, and that it understands that SERC enters into this Agreement in express reliance on the representations contained herein, as well as any other representations or information provided by BREC to SERC during any BREC interaction with SERC relating to the subject matter of this Agreement.
19. Upon execution of this Agreement, the Parties stipulate that the Possible Violation addressed herein constitutes an Alleged Violation. The Parties further stipulate that all required, applicable information listed in Section 5.3 of the CMEP is included

within this Agreement.

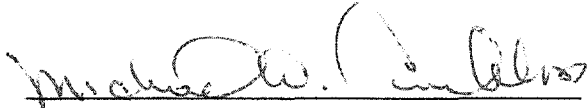
20. Each of the undersigned agreeing to and accepting this Agreement warrants that he or she is an authorized representative of the party designated below, is authorized to bind such party, and accepts the Agreement on the party's behalf.
21. The undersigned agreeing to and accepting this Agreement warrant that they enter into this 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 the Parties has been made to induce the signatories or any other party to enter into this Agreement.
22. The Agreement may be signed in counterparts.
23. This Agreement is executed in duplicate, each of which so executed shall be deemed to be an original.

SIGNATURE PAGE TO FOLLOW²

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

² An electronic version of this executed document shall have the same force and effect as the original.

Agreed to and accepted by:



Michael W. Chambliss
Vice President System Operations
BIG RIVERS ELECTRIC CORPORATION

4-22-19
Date



Jason Blake
President and Chief Executive Officer
SERC RELIABILITY CORPORATION

4-30-19
Date

Attachment A

I. ALLEGED VIOLATION – SERC2018019861

A. FAC-003-4 R2

1. FAC-003-4 ensures that entities use a defense-in-depth strategy to manage vegetation located on transmission rights of way (ROW) and minimize encroachments from vegetation located adjacent to the ROW, thus preventing the risk of those vegetation-related outages that could lead to Cascading.
2. FAC-003-4 R2 states in relevant part:

R2. Each applicable Transmission Owner and applicable Generator Owner shall manage vegetation to prevent encroachments into the MVCD of its applicable line(s) which are not either an element of an IROL, or an element of a Major WECC Transfer Path; operating within its Rating and all Rated Electrical Operating Conditions of the types shown below:

- 2.1. An encroachment into the MVCD, observed in Real-time, absent a Sustained Outage,

....

Description of the Alleged Violation and Risk Assessment

3. On June 13, 2018, BREC submitted a Self-Report stating that, as a Transmission Owner, it was in violation of FAC-003-4 R2.1. *See Self-Report, Attachment 1.* BREC experienced an encroachment due to vegetation growth into the Minimum Vegetation Clearance Distance (MVCD), observed in Real-time, absent a Sustained Outage.
4. On June 7, 2018, a momentary interruption occurred on a 345 kV line. BREC investigated and discovered that a possible encroachment of the MVCD of 4.3 feet occurred on the BREC owned and operated Coleman to Daviess Co. 345 kV line. BREC found a fast growing tree beneath the line and observed a burned branch or shoot near the top of the tree. BREC completed transmission line sag calculations with actual conditions, which indicated 33.5 feet of ground clearance at the tree location. Measurements taken after BREC removed the tree indicated a tree height of approximately 30 feet. The top of the tree was not directly under the line and appeared to be outside the MVCD. However, due to the location of the tree and the burn marking on one of the branches or shoots, BREC concluded that a small shoot growing toward the phase conductors likely encroached the 4.3 feet MVCD and burned clear.
5. BREC completed its ground inspection and aerial inspection of this line segment on January 24, 2018 and April 9, 2018, respectively, and did not observe any encroachments.

Attachment A

6. The primary cause of this Alleged Violation was a deficient Transmission Vegetation Management Program (TVMP). BREC's TVMP did not require annual inspections to be performed at a time when foliage was present and for an inspector to be focused solely on vegetation when performing aerial inspections.
7. The Alleged Violation started on May 27, 2018, the date the tree in question was estimated by BREC to have encroached the MVCD, and ended on June 7, 2018, when BREC was alerted of the momentary line outage and cut down the tree
8. SERC determined that the Alleged Violation posed a serious or substantial risk to the reliability of the bulk power system (BPS).³ Failure to properly maintain vegetation in transmission ROWs increases the risk of vegetation-caused outages and creates potential for cascading outages. Here, the risk was elevated because the Alleged Violation caused a momentary outage on a 345 kV transmission line. Further, BREC had performed two prior inspections and failed to remove a fast-growing tree from the right-of-way indicating unacceptable deficiencies in its TVMP.

Mitigating Actions

9. On August 3, 2018, BREC submitted a Mitigation Plan addressing the Alleged Violation of FAC-003-4 R2. *See* Mitigation Plan SERCMIT014337, **Attachment 2**. On January 14, 2019, SERC accepted the Mitigation Plan.
10. To mitigate the Alleged Violation, BREC:
 - i. removed the tree in question;
 - ii. immediately performed aerial inspections of all 345 kV right-of-ways and spot-checked brush areas;
 - iii. cut brush within 15 feet of the conductor, which is outside its minimal vegetation action threshold, as a precautionary measure;
 - iv. provided transmission sag line training to vegetation management staff; and
 - v. revised its Transmission Vegetation Management Program to:
 - a. require one annual inspection to be completed during a period with foliage present;
 - b. require one inspector to be focused only on vegetation when performing aerial inspections;

³ FAC-003-4 has a VRF of "High" pursuant to the VRF Matrix. According to the VSL Matrix, this noncompliance warranted a "High" VSL.

Attachment A

- c. formalize the 15 foot action threshold guideline used to determine hot spot areas that require near-term vegetation management work by adding this guideline to the TVMP;
 - d. provide related training during the annual TVMP program overview training; and
 - v. requested that the property owner remove trailers that obscured the view of vegetation from the right-of-way.
- 11. On August 16, 2018, BREC notified SERC that it completed this Mitigation Plan on August 13, 2018. *See* Certification of Mitigation Completion, **Attachment 3**. On January 22, 2019, SERC verified that BREC completed its Mitigation Plan on August 13, 2018.

Attachment 2

BREC's Self-Report dated June 13, 2018

This item was submitted by Chris Bradley (chris.bradley@bigrivers.com) on 6/13/2018

Please note that the circumstances under which an Entity would submit a Scope Expansion form are different from what would require a new Self-Report. Please review the material in [this link](#) to see clarifying information and examples of these differences before continuing with this form.

FORM INFORMATION

Registered Entity: Big Rivers Electric Corporation

NERC Registry ID: NCR01180

JRO ID: JRO00087

CFR ID: JRO00001, CFR00091, CFR00092

Entity Contact Information: Chris Bradley

REPORTING INFORMATION

Applicable Standard: FAC-003-4

Applicable Requirement: R2.

Applicable Sub Requirement(s): 2.1.

Applicable Functions: TO

Has a Possible violation of this standard and requirement previously been reported or discovered: No

Has this Possible Violation previously been reported to other Regions: No

Date Possible Violation was discovered: 6/7/2018

Beginning Date of Possible Violation: 6/1/2018

End or Expected End Date of Possible Violation: 6/7/2018

Is the violation still occurring? No

Provide detailed description and cause of Possible Violation:

A possible encroachment of the Minimum Vegetation Clearance Distance (MVCD) of 4.3 feet occurred on the Big Rivers owned and operated Coleman EHV to Daviess Co. EHV 345 kV circuit. While no encroachments were observed during recent ground and aerial inspections, a momentary interruption (trip/automatic reclose) occurred on June 7, 2018 at 4:16 P.M. While investigating the cause of the momentary interruption, a fast growing tree (appears to be a Hybrid Poplar) was found beneath the line. A possible burned branch or shoot was observed near the top of the tree. At that time, a Big Rivers line crew estimated no part of the tree was within five feet of the conductor and immediately removed the tree.

Transmission line sag calculations completed with actual conditions indicate 33.5 feet of ground clearance at the tree location. Measurements taken after the tree was removed indicate a tree height of approximately 30 feet. The top of the tree was not directly under a phase conductor and appeared to be outside the MVCD. However, a small shoot growing toward the phase conductors may have encroached the 4.3 MVCD and burned clear as evidenced by the probable flashover and resulting momentary interruption.

Overall, the Big Rivers TVMP is robust and includes one annual aerial inspection and one annual ground inspection of all 345 kV right-of-way. The trimming clearance cycle includes a four-year herbicide application cycle/vegetation clearing plus an on-going identification, monitoring, and/or cutting/trimming of vegetation that could pose a risk prior to the next scheduled herbicide application/clearing cycle. This particular line is scheduled for herbicide treatment in the summer of 2018, with the last treatment being in 2014. To an extent, the inspections rely on professional judgement and experience to identify vegetation issues and successfully implement the TVMP. In this situation, human error appears to be the most significant factor. Other contributing factors include:

- Obscured view of the vegetation – multiple semi-trailers, large hay bales, and other property owner debris was located near the vegetation.
- A higher than average vegetation growth rate was experienced in 2018 due to temperatures and above average rainfall. Hybrid Poplars are fast growing trees that can grow 6 to 8 feet per year.
- Sag differential (at the time of inspection vs. the maximum) can impact the inspector's conclusion when determining if existing vegetation is an immediate threat.
- No foliage was present during the two most recent inspections. This may increase the likelihood of missing problematic vegetation.
- Inspectors looking for line problems as well as vegetation issues may have focused on nearby cracked crossarms rather than vegetation.

Are Mitigating Activities in progress or completed? Yes

An informal Mitigation Plan will be created upon submittal of this Self-Report with mitigating activities. If you would like to formalize that Mitigation Plan, please contact the Region.

If Yes, Provide description of Mitigating Activities:

An aerial inspection of all 345 kV right-of-way was completed on Sunday, June 10 with spot checks of certain areas to be completed before the end of June 2018. A root-cause analysis (RCA) was initiated on June 7, 2018 with a formal RCA meeting held on Monday June 11, 2018. Transmission line sag training was provided to vegetation management staff on June 11, 2018. Big Rivers personnel will request the property owner remove semi-trailers from the right-of-way that obscured the view of vegetation. Modify TVMP to require one annual inspection be completed during a period with foliage present. Modify TVMP to require one inspector be focused only on vegetation when performing aerial inspections.

Provide details to prevent recurrence:

The inspector shall check temperatures and request actual line loading to help determine the existing line sag so that adjustment can be made to account for the maximum sag that may occur at any time throughout the year.

The Big Rivers TVMP will be updated and other actions/mitigating activities will be fully implemented as described.

Date Mitigating Activities (including activities to prevent recurrence) are expected to be completed or were completed:

6/29/2018

MITIGATING ACTIVITIES			
Title	Due Date	Description	Prevents Recurrence
Additional Aerial Inspection	6/10/2018	Perform additional aerial inspection immediately	No
Update TVMP	6/29/2018	Modify TVMP to require an inspection with foliage present and dedicated inspector	Yes
Request Semi-Trailers be Moved Off ROW	6/29/2018	Request that the property owners move the trailers that are obscuring the ROW view	Yes
Training	6/11/2018	Provide transmission sag training to vegetation management staff	No

Potential Impact to the Bulk Power System: Moderate

Actual Impact to the Bulk Power System: Minimal

Provide detailed description of Potential Risk to Bulk Power System:

The Coleman EHV to Daviess Co. EHV 345 kV circuit is not part of an IROL and has not been identified as a critical facility. However, the potential loss of a 345 kV circuit can pose a moderate risk to the BPS.

Provide detailed description of Actual Risk to Bulk Power System:

The Coleman EHV to Daviess Co. EHV 345 kV circuit was lightly loaded at the time of the event (27% - 323 Amps/193 MVA). No significant BPS impacts were reported following the momentary interruption. Therefore, evidence suggests the actual risk to the BPS was low.

Additional Comments:

No previous vegetation related compliance violations have occurred. In addition, no sustained outages occurred as a result of the possible encroachment. Based on transmission sag calculations, estimated vegetation growth rates, and an actual measurement of the tree, the MVCD was not encroached at the time of the most recent ground inspection (January 24, 2018). Immediately following the momentary interruption on June 7, 2018 crews were dispatched to the area to investigate. After arriving on site and determining an encroachment may have occurred, the tree was removed at approximately 8:00 P.M. Big Rivers management and compliance staff was immediately notified

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.)

Attachment 3

BREC's Mitigation Plan designated as SERCMIT014337 for

FAC-003-4 R2 submitted June 13, 2018

VIEW FORMAL MITIGATION PLAN: FAC-003-4 (REGION REVIEWING MITIGATION PLAN)

This item was signed by Mike Chambliss (michael.chambliss@bigrivers.com) on 8/3/2018

This item was marked ready for signature by Chris Bradley (chris.bradley@bigrivers.com) on 8/3/2018

MITIGATION PLAN REVISIONS

Requirement	NERC Violation IDs	Regional Violation Ids	Date Submitted	Status	Type	Revision Number
FAC-003-4 R2.	SERC2018019861	SERC2018-403097	06/13/2018	Revision Requested	Informal	
FAC-003-4 R2.	SERC2018019861	SERC2018-403097	06/22/2018	Revision Requested	Formal	1
FAC-003-4 R2.	SERC2018019861	SERC2018-403097	08/03/2018	Region reviewing Mitigation Plan	Formal	2

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.

[Yes] 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: Big Rivers Electric Corporation

Company Address: 201 Third Street

Henderson, Kentucky 42420

Compliance Registry ID: NCR01180

B.2 Identify the individual in your organization who will be the Entity Contact regarding this Mitigation Plan.

Name: Chris Bradley

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 Reliability Standard listed below.

Standard: FAC-003-4

Requirement	Regional ID	NERC Violation ID	Date Issue Reported
R2.	SERC2018-403097	SERC2018019861	6/13/2018

C.2 Identify the cause of the Alleged or Confirmed violation(s) identified above:

The Big Rivers TVMP includes one annual aerial inspection and one annual ground inspection of all 345 kV right-of-way. The trimming clearance cycle includes a four-year herbicide application cycle/vegetation clearing plus an on-going identification, monitoring, and/or cutting/trimming of vegetation that could pose a risk prior to the next scheduled herbicide application/clearing cycle. This particular line is scheduled for herbicide treatment in the summer of 2018, with the last treatment being in 2014. To an extent, the inspections rely on professional judgement and experience to identify vegetation issues and successfully implement the TVMP. In this situation, human error appears to be the most significant factor. Other contributing factors include:

- Obscured view of the vegetation – multiple semi-trailers, large hay bales, and other property owner debris was located near the vegetation.
- A higher than average vegetation growth rate was experienced in 2018 due to temperatures and above average rainfall. Hybrid Poplars are fast growing trees that can grow 6 to 8 feet per year.
- Sag differential (at the time of inspection vs. the maximum) can impact the inspector's conclusion when determining if existing vegetation is an immediate threat.
- Limited foliage was present during the two most recent inspections. This may increase the likelihood of missing problematic vegetation.
- Inspectors looking for line problems as well as vegetation issues may have focused on nearby cracked crossarms rather than vegetation.

[Attachments \(\)](#)

C.3 Provide any additional relevant information regarding the Alleged or Confirmed violations associated with this MitigationPlan:

No previous vegetation related compliance violations have occurred. In addition, no sustained outages occurred as a result of the possible encroachment. Based on transmission sag calculations, estimated vegetation growth rates, and an actual measurement of the tree, the MVCD was not encroached at the time of the most recent ground inspection (January 24, 2018). Immediately following the momentary interruption on June 7, 2018 crews were dispatched to the area to investigate. After arriving on site and determining an encroachment may have occurred, the tree was removed at approximately 8:00 P.M. Big Rivers management and compliance staff was immediately notified.

[Attachments \(\)](#)

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:

- * An aerial inspection of all 345 kV right-of-way was completed on Sunday, June 10, 2018. Areas with some existing brush were identified during the aerial inspection and were spot checked by ground on June 11-12, 2018. The brush was not within 15 feet of the conductor but was cut to ensure it did not become an issue.
- * A root-cause analysis (RCA) was initiated on June 7, 2018 with a formal RCA meeting held on Monday June 11, 2018. The RCA identified the need to 1) improve inspection practices; 2) provide line sag training; and 3) request the property owners move the trailers that obscured the view of the vegetation.
- * Transmission line sag training was provided to vegetation management staff on June 11, 2018.
- * Big Rivers personnel requested the property owner remove semi-trailers from the right-of-way that obscured the view of vegetation.
- * Modify TVMP: (1) require one annual inspection be completed during a period with foliage present; (2) require one inspector be focused only on vegetation when performing aerial inspections; and (3) formalize the 15 foot action threshold guideline used to determine hot spot areas that require near-term vegetation management work by adding this guideline to the TVMP and by providing related training during the annual TVMP program overview training.

[Attachments \(\)](#)

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:

9/3/2018

D.3 Enter Milestone Activities, with due dates, that your organization is proposing, or has completed, for this Mitigation Plan:

[Training](#)

Milestone Completed (Due: 6/11/2018 and Completed 6/11/2018)

Provide transmission sag training to vegetation management staff

[Additional Aerial Inspection and Ground Spot Check](#)

Milestone Completed (Due: 6/12/2018 and Completed 6/12/2018)

Perform additional aerial inspection immediately

[Request Semi-Trailers be Moved Off ROW](#)

Milestone Completed (Due: 6/29/2018 and Completed 6/21/2018)

Request that the property owners move the trailers that are obscuring the ROW view

[Update TVMP](#)

Milestone Pending (Due: 9/3/2018)

Modify TVMP to require an inspection with foliage present and dedicated inspector (completed on 6/29/18). Update the TVMP to add a description of the 15 foot action threshold guideline used to determine required hot spot work (due 8/10/2018).

SECTION E: INTERIM AND FUTURE RELIABILITY RISK

E.1 Abatement of Interim BPS Reliability Risk: While your organization is implementing this Mitigation Plan the reliability of the Bulk Power Supply (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):

The primary risk is the possible existence of other vegetation that may not have been properly identified by inspectors. To minimize or abate this risk, transmission line sag training was provided to vegetation management staff on June 11, 2018. In addition, an aerial inspection of all 345 kV right-of-way was completed on Sunday, June 10 with ground patrol inspections of certain areas to be completed before the end of June 2018.

[Attachments \(\)](#)

E.2 Prevention of Future BPS Reliability Risk: Describe how successful completion of this Mitigation Plan will prevent or minimize the 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):

The implementation of this action plan is expected to increase vegetation visibility and reduce the risk of human error.

[Attachments \(\)](#)

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:
 - I am Mike Chambliss of Big Rivers Electric Corporation
 - I am qualified to sign this Mitigation Plan on behalf of Big Rivers Electric Corporation
 - I understand Big Rivers Electric Corporation'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 (Compliance Monitoring and Enforcement Program of the North American Electric Reliability Corporation (NERC CMEP))
 - I have read and am familiar with the contents of this Mitigation Plan
 - Big Rivers Electric Corporation agrees to comply with, this Mitigation Plan, including the timetable completion date, as accepted by SERC and approved by NERC

SECTION G: REGIONAL ENTITY CONTACT

SERC Single Point of Contact (SPOC)

Attachment 4

BREC's Certification of Mitigation Plan Completion for

FAC-003-4 R2 submitted August 16, 2018

VIEW MITIGATION PLAN CLOSURE: FAC-003-4 (MITIGATION PLAN CLOSURE COMPLETED)

 This item was signed by Mike Chambliss (michael.chambliss@bigrivers.com) on 8/16/2018 

 This item was marked ready for signature by Chris Bradley (chris.bradley@bigrivers.com) on 8/13/2018 

MEMBER MITIGATION PLAN CLOSURE

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:

Big Rivers Electric Corporation

Name of Standard of mitigation violation(s):

FAC-003-4

Requirement	Tracking Number	NERC Violation ID
R2.	SERC2018-403097	SERC2018019861

Date of completion of the Mitigation Plan:

8/13/2018

Training

Milestone Completed (Due: 6/11/2018 and Completed 6/11/2018)

[Attachments \(1\)](#)

Provide transmission sag training to vegetation management staff

Additional Aerial Inspection and Ground Spot Check

Milestone Completed (Due: 6/12/2018 and Completed 6/12/2018)

[Attachments \(2\)](#)

Perform additional aerial inspection immediately

Request Semi-Trailers be Moved Off ROW

Milestone Completed (Due: 6/29/2018 and Completed 6/21/2018)

[Attachments \(2\)](#)

Request that the property owners move the trailers that are obscuring the ROW view

Update TVMP

Milestone Completed (Due: 9/3/2018 and Completed 8/13/2018)

[Attachments \(2\)](#)

Modify TVMP to require an inspection with foliage present and dedicated inspector (completed on 6/29/18). Update the TVMP to add a description of the 15 foot action threshold guideline used to determine required hot spot work (due 8/10/2018).

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

Sag training was provided to all vegetation management staff. In addition, an aerial inspection and spot checks via ground patrol were completed. The TVMP was updated to include a 15 foot action threshold guideline and additional inspection requirements. TVMP training was held on 8/13/18. Semi-trailers obscuring the ROW view were moved.

Description of the information provided to SERC for their evaluation *

The following information was provided: Inspection reports; photos showing the trailers were moved; updated TVMP; TVMP and transmission line sag training records.

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 is complete, true and correct to the best of my knowledge.

Attachment 5

SERC's Verification of Mitigation Completion for

FAC-003-4 R2 dated June 18, 2019



Evaluation | Analysis | Assistance | Operating Experience

CONFIDENTIAL

June 18, 2019

VIA EMAIL

Mike Chambliss
Vice President System Operations
Big Rivers Electric Corporation
201 Third Street
Henderson, KY 42420
michael.chambliss@bigrivers.com

Re: Notice of Verification of Mitigation Activities Completion
NERC Registry ID: NCR01180
SERC Violation ID: SERC2018-403097
NERC Violation ID: SERC2018019861

SERC Reliability Corporation (SERC) hereby provides notice to Big Rivers Electric Corporation (BREC) that it has verified completion of the mitigating activities in connection with the instance of noncompliance listed above.

SERC hereby notifies BREC that the Regional Entity review is closed. BREC is required to maintain evidence related to the remediated issue for no less than 18 months from the later of (1) the date that SERC sent the notice of compliance exception treatment or (2) the date BREC completes the mitigation activities.¹ After that period has passed, if the Commission has not issued a notice of review for the remediated issue, any related data hold will be released with regard to the remediated issue.

Please include the SERC Violation ID indicated above in any correspondence with SERC regarding this matter. Please contact the SPOC if you have questions or concerns.

cc: SERC Compliance Reporting System
NERC Compliance Reporting System
Janice Carney, jcarney@serc1.org
Chris Bradley, chris.bradley@bigrivers.com

¹ 153 FERC ¶ 61, 130 at paragraph 37 (Docket No. RR15-2-001, *et al.*, November 4, 2015).